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**The influence of social factors on the
development of L2 and L1 by young migrant
Polish children in Scotland**

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PhD

The University of Edinburgh

2019

DECLARATION

I declare that this thesis has been written by me. This work has not been submitted for any other degree or professional qualification.

A handwritten signature in black ink, appearing to read 'A. Fraser', is positioned above the printed name.

Agnieszka Fraser

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ABSTRACT OF THESIS

Nowadays, families migrate more frequently than ever before. Regardless of reasons for migration, it has a substantial impact on families in terms of their language, culture, and communication. The linguistic aspect is a key part of this issue, particularly in families with young children who enter school and have to develop a new language. There is a lot of research about the acquisition of a second language and the heritage language loss in an education context. This research focused on socio-emotional factors associated with first language (L1) maintenance and second language (L2) acquisition in a situation of migration in which both languages have implications for education.

The relationship between second language acquisition and cognitive factors has been a focus of interest for many authors, but the influence of social and affective factors, such as parental attitude and cultural orientation on L1 and L2 acquisition has not been explored to such an extent. Moreover, Polish migrant families represent a non-traditional, more fluid type of migration, they often travel between their heritage and their host country, so patterns of language acquisition and influencing factors may also be different than those explored in previous studies.

The purpose of the longitudinal study was to assess the direction and rate of development of L2 (English) and L1 (Polish) among the children of Polish migrants to Scotland who have just started primary school, and explore the social-emotional factors that might affect this. These consisted of the parents' acculturation towards the mainstream (British) culture and language, enculturation towards their Polish heritage culture and language, selected family demographic features, and the children's socio-emotional functioning as measured by the Strengths and Difficulties Questionnaire (SDQ) (Goodman 1997).

Participants of the current study comprised 69 Polish children (37 girls and 32 boys) and the parents of 53 of the sample, resident in central Scotland recruited mainly through Scottish primary schools. There were three main research questions: (1) What is the rate and direction of development of L1 (Polish) and L2 (English)

among the 4 to 6 year-old-children of Polish migrants to Scotland?; (2) In 4 to 6-year-old-children of Polish migrants to Scotland is acquisition of L2 and maintenance of L1 associated with parents' cultural orientation towards Poland and Scotland, parental language attitudes to Polish and English, or socio-demographic factors?; (3) What is the link between L2/L1 acquisition/maintenance and the socio-emotional functioning of a child?; (4) What is the role of engagement with a language in the language acquisition of the 4 to 6 year-old-children of Polish migrants to the UK?

The children's L1 (Polish) and L2 (English) language skills were measured at the start of their first school year using two language proficiency measures (an English one and a Polish one). After 18 months the tests were repeated with the same cohort to give a measure of the change/progress in each language. Additionally, the parents of the assessed children completed the Acculturation Questionnaire, Strengths and Difficulties Questionnaire, and Family, Language and Attitudes Questionnaire created for the current study.

In regard to Research Question 1, the scores at T2 for English were significantly higher than at T1. However, the overall group score for Polish was significantly lower at T2 than at T1. One key finding was that the Polish did not progress for all but 15 (around 21%) out of 69 children. By contrast, only five (around 7%) out of 69 children did not make any progress on English.

For Research Question 2, there was no association between parental cultural orientation scores on either mainstream or heritage scale and the children's total language scores. Similarly, there was no link between parents' language attitude scores and their children's total language scores. However, both cultural orientation and their language attitudes scores predicted the amount of the children's engagement with a language. In addition, previous language exposure and current language use were in turn strong predictors of L2 language scores. In terms of L1, the amount of engagement with a language was affecting the language scores only in the form of one of its components: the current language use.

For Research Question 2, three socio-demographic measures also played a role: children's place of birth, their time in Scotland and parents' education. The children's

country of birth (Poland or Scotland) had an effect on their L2 and the length of their stay in Scotland had an effect on both L1 and L2. The parents' education level influenced their L1 performance in a positive way, but the link between this variable and the children's L2 results was not straightforward as there was a difference between the effects of fathers' and mothers' education. Mothers' education was strongly associated with the children's L1 progress.

For Research Question 3, the SDQ findings indicated that some, but not all of the SDQ sub-scales (Pro-social, Emotions and Behaviour) in different ways were associated with the children's language scores. However, both heritage and maintenance cultural orientations of the parents were negatively correlated with psycho-social functioning problems of their children: higher scores on enculturation and higher scores on acculturation parental attitude scales were associated with fewer behavioural problems in their children. Additionally, the parental heritage orientation was associated with their prosocial behaviour. This suggests that parental attitudes do play an indirect role in children's social adjustment. For Research Question 4, for both Polish and English, in line with current literature, the amount of engagement with a language contributed significantly to the children's scores.

The above findings indicate that although the link between socio-emotional factors and the children's linguistic development in L1 and L2 is not direct, they do play a role in language acquisition. It helps build a more complete picture of a complex relationship between socio-emotional and cognitive aspects of bilingual child development, contributing to the knowledge of this issue in both research and practice.

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GLOSSARY

acculturation – a process of psychological and behavioral change in individuals and groups being a results of long-lasting contact with a different culture

acculturative stress – the stress that occurs during the process of acculturation to another culture

affective factors – factors relating to emotions, moods and feelings

allocentrism – a tendency to centre one's attention and actions around other people rather than themselves

bilingualism – an ability to use more than one language

cognitive factors – factors relating to memory, perception, reasoning and judgement

enculturation – a process in which individuals learn the traditional content of culture, its values and practices

engagement with a language – an active contact with a language

externalizing behaviour – actions directing negative energy and maladaptive emotions toward social environment and acting out problems, for example physical and verbal aggression, defiance, and acting out problems

identity – a set of behavioural or personal characteristics making an individual different than others

internalizing behaviour - actions directing negative energy and maladaptive emotions toward the inner self, such as anxiety, depression, stress

language input – a form of engagement with a language during which an individual actively and purposefully processes linguistic material though language learning

language exposure – a form of engagement with a language during which an individual processes linguistic material through experiencing communication, leading to language acquisition

transnational migration - a process of movement between countries in which individuals, while settling in their host country, maintain or create networks of connection to their native country

language attrition – a process of losing an individual's native language caused by not using it

language acquisition – a process of acquiring a language through natural and meaningful interaction

language learning – a process through which learners are equipped with conscious knowledge about a language

language proficiency – an ability to function in a communicative situation to a certain level of performance

multilingualism – an ability to use more than two languages

phonology – a branch of linguistics relating to systems of sounds

syntax - grammatical structure of words and phrases that are put together in order to create coherent sentences

semantics – a branch of linguistics relating to meaning in language

simultaneous bilingualism – bilingualism in which exposure to more than one language started at birth or very young age

successive bilingualism – bilingualism in which at some point of one's life second language is added to the first one

CHAPTER 1

INTRODUCTION

1. Introduction

The purpose of this thesis is to explore whether and how social and family factors affect the acquisition of the second language and maintenance of the first language in children of migrant parents. A novel set of factors analysed during this study may help understand the position of migrants, particularly the situation of Polish migrants in Scotland.

Migration is a phenomenon which has been observed all around the world for centuries (Massey 2003). However, moving around the contemporary world now is becoming increasingly more affordable and more common than before. As a result, changing one's place of residence has become a more popular and more often chosen option for solving problematic issues and/or personal development. Consequently, global migration has led to an increased diversity in populations of particularly those countries which for financial, social or political reasons are perceived as good places to live (Castles 2000). However, some authors suggest that migration negatively influences the well-being of children of migrants (Mazzucato and Schans 2011; Vega, Lasser and Plotts 2015). The study of migration and migrants is a relatively new area of psychology and literature with regards to studies related to children of migrants is still to be developed, particularly in the light of modern ways of life and travelling. The outcome of the current research could be helpful to education workers engaging with migrant families and their children, and may improve the successful settling of migrants into their host country. Additionally, it could contribute to the knowledge of factors playing a role in promoting heritage language skills and preventing their decline.

This research represents a novel way of approaching issues regarding language acquisition in a context of migration; a study with such characteristics has not been carried out before in the UK. Firstly, it focuses not on cognitive, but on emotional

factors. The study was inspired by the author's own experience with the Polish migrant population and the general impression of migrant parents concerned with either their children's insufficient progress in the acquisition of their second language (English) or with the deterioration in their children's first language (Polish). It was frequently mentioned that the children for no reason refused to speak a particular language. The word "refuse" indicated that parents viewed cognitive factors as secondary to the affective ones. Secondly, the participant group in this research is characterized by some features that migration groups in previous studies did not have. These features are transnationalism and allocentrism, and they will be outlined below.

2. Cognitive versus affective factors

During the later decades of the 20th century the number of researchers and linguists who argued that being bilingual was detrimental to children's development (Baker and de Kanter 1981; Diebold 1968; Hurlock 1985; Macnamara 1966) far exceeded the number of those who associated bilingualism with cognitive and social benefits. Only after a study with 10-year-old "truly" bilingual children conducted by Pearl and Lambert (1962), which indicated that bilinguals achieved better verbal and non-verbal intelligence scores than monolinguals, did the view begin to emerge of bilingualism as a positive phenomenon (Barreto, Sánchez de Miguel, Ibarluzea, Andiaarena, Arranz 2017; Bialystok 2008; Carlson and Meltzoff 2008; Cummins 2001; Edwards 2008; Gogolin 2002; Grosjean 2010; Lueck and Wilson 2010; Winsler, Diaz, Espinosa, and Roderiquez 1999). Consequently the perception that children's learning of a dominant language should be prioritized over maintaining their first language started changing (Cummins 1979, 1991, 2001). Some research suggests that bilingual children showed advantages over their monolingual peers in cognitive flexibility and inhibitory control (Bialystok and Senman 2004; Bialystok 2008; Lueck and Wilson 2010); paying attention, inhibiting irrelevant data, and switching between problem solutions (Sorace 2007); metalinguistic awareness (Bialystok 2001, 2008;

Cummins 1979, 1987, 2001; Diaz and Hakuta 1985); executive functioning (Carlson and Meltzoff 2008), and literacy development (Bialystok 2008; Danesi 1990). Some of the above views were challenged by other researchers (Tabors, Paez, and Lopez 2003) whose study demonstrated that bilingual children may well be at risk in terms of their literacy development because of a delay in their vocabulary L1 and L2 acquisition. However, recognition of bilingualism as something valuable has been initiated.

Even after bilingualism was saved from condemnation in 1962 (Bialystok 2008), initially most studies focused on cognitive factors of language acquisition. Since then, some affective variables such as motivation and the attitudinal component of language acquisition become of an interest to researchers (Gardner 1985, 2006; Krashen 1994; Lambert 1987; Noels 2001; Williams and Burden 1997) [see Chapter 1, Sections 3.4]. The relationship between language (bilingualism in particular) and social and emotional factors had limited attention until the end of the last century (Wierzbicka 1994, 1997; Pavlenko 2006, 2009) [see Chapter 1, Sections 3.4]. The relative absence of affective factors may be because multilingualism is linked with a situation of migration, which often seems to raise emotional reactions.

3. Polish migration to Scotland

3.1 Statistics

The relatively recent increase in Polish migration to the UK was a direct consequence of the EU's enlargement in 2004. Although this was not the first wave of Polish migration to the UK, it was one of the biggest emigration flows in Poland's post-war history (Central Statistical Office [pol. CUS]; Iglicka and Ziółek-Skrzypczak 2010).

According to the Home Office (2008) statistics, in the period from the 1st of May 2004 to the 31st of March 2007 around 410,000 Polish nationals arrived in the UK. Estimates of the number of Polish migrants are extremely unreliable as a result of the nature of their migration. Recent statistics indicate that the Polish community in the

UK in 2013 with almost 688,000 people was the third largest ethnic minority group (Office for National Statistics 2013).

In Scotland, according to Hudson and Aiton (2016) approximately half (86,000 or 47%) of all EU nationals are Polish. Polish is the second, after English, most commonly spoken home language among the pupils of publicly funded schools, with almost 16,000 children using it at home (National Records of Scotland 2018). Thirteen thousand Polish children constitute the second largest group of primary school pupils in Scotland (National Records of Scotland 2018).

3.2 Differences between the study participant group and other migration groups

Global migration is multifaceted. The Polish migration group in Scotland has some characteristics that differ from those of most previously studied migrant communities. First of all, the reason for their migration is not a conflict or necessity, but the freedom of labour and a search for a better economic status. Iglicka and Ziolk-Skrzypczak (2010) found that a majority of Polish migrants are also predominantly young (20 to 29 years old); according to Hudson and Aiton (2016) who conducted a study in Scotland, 35% of their population is 25 to 34 years old; unlike some other migration groups, they do not tend to settle in areas with high previous migration - 94% settle in urban areas (Hudson and Aiton 2016); and they declare that their stay in the UK will be temporary (Iglicka and Ziolk-Skrzypczak 2010). Some evidence from previous studies suggests that parents' plans to stay in a host country have always been one of the major predictors of a child's future bilingualism (Boyd 1986) and that families who declared the will to return to their home country were much more likely to maintain their first language (Boyd 1986; Gogolin 2002).

There are also differences between the participants of the most quoted studies on migration and the participants of the research for this thesis. Most of the studies were exploring relationships within a community of migrants who had spent many years, were well established in the country of their migration and created settled communities, whereas participants of the current study will typically have spent between one and ten years in the UK. Thus, they are rather relatively "recent arrivals"

(Hudson and Aiton 2016; Iglicka and Ziółek-Skrzypczak 2010) and therefore in a different situation than participants of the quoted studies.

Additionally, in many studies the most significant characteristic differentiating migrants from the dominant community is not their nationality, but their ethnicity. However, some of the research findings might be generalised to a sample with different characteristics. According to Hughes, Smith, Stevenson, Rodriguez, Johnson and Spicer (2006, p.765) “examination of groups with similar historical experiences but different current opportunities and constraints, or groups with different historical experiences but similar current opportunities and constraints” could help to unpick associations and find interesting relationships between them.

3.2.1 Transnational migration

There are two other factors that are typical of the Polish migration community and might affect Polish migrant children’s language learning. One is the transnationalism of Polish migration (Cronin 2006; Ignatowicz 2012; Lopez-Rodriguez 2008; Temple 2010). Transnational migration is defined as “a process of movement and settlement across international borders in which individuals maintain or build multiple networks of connection to their country of origin while at the same time settling in a new country” (Fouron and Glick-Schiller 2001, p. 60). The purpose of such travelling between a home country and a host country is to keep links to both (Fouron and Glick-Schiller 2001). Cheap airlines fares have made this possible, helping change the permanent character of migration into some sort of temporary solution to financial issues. Many migrants still use services in Poland, for example, they travel to Poland to visit family, see a doctor or dentist (Cook, Dwyer, and Waite 2008; Scullion and Morris 2009); to build or buy a house (Eade, Drinkwater, and Garapich 2007). Some keep their options open and want their children to be able to re-enter the Polish educational system. This suggests that a variety of strategies are developing, often involving complex family structures spread between Poland and Britain. It is also common for a Polish migrant’s children and partner to stay behind and arrive into Britain when the first person who migrated achieves some sort of stability. This factor of family reunification to a great degree influences today’s migration (Mazzucato and

Schans 2011). However, even if whole families settle in the UK, they often travel to Poland, take extended holidays. These heritage visits may be important for cross-generational communication, providing children with opportunities to speak their first language and familiarize themselves with their heritage culture and religion. On the other hand, if their travels take place during the school year, they lower the children's British school attendance, therefore affecting also their L2 development. According to Lam and Warriner (2012) transnational migration is a phenomenon that influences migrants' use of language and shapes their literacy repertoires. This in turn leads to polycentricity, characterized by enacting different language ideologies and the existence of multiple language centres. Li and Juffermans maintain that the centre of a language is where "speakers recognize that the language is 'best', 'most correctly' or 'most normally spoken'" (Li and Juffermans 2014, p. 99).

3.2.2 Allocentrism

Another interesting characteristic relevant to this thesis is this community's cultural orientation: so-called family allocentrism. Verkuyten (2004) defines this as a central aspect of collectivism and a tendency to centre one's actions around family members. It can be defined as a personal feature characterised by directing an individual's attention and actions towards other people rather than on the individual. Triandis (1995) views allocentrism and idiocentrism as individual level constructs corresponding to collectivism and individualism existing at the cultural level. According to Grosjean's (2010) autobiographical experience and its analysis, the patterns of language acquisition/attrition to a large extent depend on language exposure based on active interactions with members of the extended family. Polish culture could be described as collectivistic and family oriented (Brown 2011, Smoleńska 1993), which might affect the patterns of learning English and maintaining Polish. This aspect of heritage values has been reflected by including information regarding members of the extended family in the research for this thesis. On the other hand, allocentrism might diminish the role of a peer group in the life of children under 3 years, because they might not attend any play groups or interact with representatives of the host culture before entering the formal education system.

4. Polish migrant school children in Scotland

In the Scottish education system Polish is not part of the 1+2 language strategy that supplements the “curriculum for excellence” as one of the modern languages the government aspires to equip children with (Scottish Government 2012). Unlike in England, children in Scotland do not have the opportunity to select Polish as one of their languages at GCSE and A-level. Such a model of bilingual education is regarded as weak by Colin Baker (1996) who describes it as submersion in a language as opposed to immersion. Living within this “subtractive” policy context means that Polish children attending schools in Scotland must face a number of challenges. They must learn English while attempting to acquire knowledge of other subjects within the Scottish curriculum through this new-to-them language. Tabors (1997) calls this the “double bind”. These children may also be deprived of social interactions with their Scottish peers as their English competency is often not sufficient.

There are several Polish language Saturday schools in Scotland. Some of them are well-established and have been in operation since the accession of Poland to the EU in 2004. Some of them seem to be temporary, private enterprises focused on economic gain. However, their number is increasing throughout Scotland with a current network of seventeen Saturday schools (Martowicz and Roach 2016), compared to only one in 2002. In 2016 around 1300 young Polish children of school age attended these classes. There are also two publicly-funded Scottish schools – a high school and a primary school that provide afternoon Polish lessons for 37 children (Martowicz and Roach 2016). It could be argued that lessons in these school could only have a minimal impact on L1 development because most of them only provide lessons for between 2 and 4 hours, once a week (Dietkow 2011). This type of engagement with a language may not be sufficient for L1 to be developed adequately due to the very limited amount of language input offered to the children.

In this situation, the Polish migrant children risk attrition of their first language, which might have many negative consequences, such as the lack of communication between parents and children limiting their mutual understanding, or negative

feelings associated with being unable to understand the language and culture. Skutnabb-Kangas (1981) observed that parents who abandoned their language felt that their children did not really know them as a person, and that they themselves had lost some part of their own children.

The Educational Inspectorate in Scotland has recognized that teachers do not feel confident in how best to respond to migrant children's learning needs, how to support their newly arrived pupils and maximize their potential as bilinguals (HMIe 2009). The research of Anderson, Foley, Sangster, Edwards and Rassool (2016) included both the perspective of EAL (English as Additional Language) teachers and EAL high school pupils. The authors emphasized that there was a huge diversity in the EAL students' migration patterns, backgrounds, types of native languages spoken and previous schooling, and that the teachers should try to obtain as much information on these as possible. Therefore, there is a need to develop "highly differentiated classroom practices", formal initial and progress assessments for EAL students. Anderson et al. (2016) suggest that opportunities to develop in the area of EAL should be provided for teachers as part of their continuing professional development. Professional training would equip them with appropriate ways of supporting their EAL pupils. The authors have also recognized the value of cooperation between teachers and parents (Anderson et al. 2016).

The research on the issue of acculturation/enculturation in the UK is particularly timely in the light of the numbers of migrant children in British schools and recent political events and debates regarding all sorts of migration. This study's contribution to the literature will mainly comprise a new set of factors that clarify the position of Polish migrants in the UK. Examining whether social and emotional factors have any effect on language acquisition in the context of migration, which itself is a matter raising strong emotions, seems even more important. The research findings could be useful to education professionals dealing with migrant families and their children and may aid the integration of migrants into the host society. This research should benefit teachers, community and development staff, psychological services, parents and children and add knowledge to the L1 assessment in school for EAL children who

arrive in schools. There is a view that much more could be done about the L1 assessment of new pupils, encouraging education officers to take into account their previous knowledge, experience and L1 proficiency (Hancock 2012; HMle 2009). Additionally, it might find factors helpful in promoting native language skills and preventing their decline, now viewed as a loss. Currently, the migrant children's language and culture are not recognized, and educators often fail to treat them as an asset (HMle 2009). The research can inform policy makers, so Scotland can build on children's linguistic resources.

The thesis consists of six further chapters. Chapter 2 ("Language Development") is a literature review and outlines language development, factors affecting second language acquisition, the main theoretical approaches to language acquisition and the findings of research relevant to this thesis. Chapter 3 ("Methodology") introduces the participant group, procedure and methods used for the study. Chapters 4, 5 and 6 provide the data analyses and results of the study. Chapter 4 ("Language development") reports on the first part of the research, i.e. the children's language assessments and presents the two sets of data – the first and second language scores at the beginning (Time 1 {T1}) and end of the study (Time 2 {T2}) and the change across time points. Analyses include some demographic factors known to influence children's performance such as age and gender. Chapter 5 ("Social factors") is a detailed study of the parents' cultural orientation (acculturation and enculturation) and language attitudes, and the results of the children's socio-emotional adjustment assessment. It also provides several regression analyses and the evaluation of the model of relationships between the predictors and a range of dependent variables. Chapter 6 ("Engagement with a language") examines the role of language input and exposure in L1 and L2 in children's development of their two languages and the role of key family demographic factors. Each of the results chapters ends with a discussion of the chapter's results. Chapter 7 comprises answers to the research questions, implications of the findings for research, policy and practice, and proposed directions for future research.

CHAPTER 2

LITERATURE REVIEW

1. Introduction

This chapter considers language development and factors affecting first and second language acquisition with the emphasis on social and affective aspects of adding L2 to L1. It explains the issues of acculturative stress and language attrition. Finally, it sets out the rationale for the thesis and research questions.

A number of psychological constructs and phenomena are considered in this thesis. Because most of them have several different definitions, their meaning in this study is explained as they appear in the text [see the Glossary]. Two concepts related to language – language acquisition and language learning - overlap in practice but differ in meaning: acquisition involves natural and meaningful interaction to facilitate communication; it is about acquiring a skill. Learning is the process through which learners are equipped with conscious knowledge about a language, it implies an engagement with a person or resource, and requires explanation. Generally, with L1 it is the process of language acquisition that can be observed and with L2 it is the process of language learning. However, with children aged 4 to 6 years these two processes interweave and cannot be extracted from their life and perfectly separated from each other in a given moment. Bilingual children at the beginning of school can “acquire” both L1 and L2 and “learn” both L1 and L2. They could acquire L2 when playing with their English-speaking peers and learn L1 from private Polish teachers.

The terms “input” and “exposure” are forms of engagement with a language and are related to the material children process during language learning or acquisition. For the purposes of this study “exposure” relates to what happened to a child’s development before they entered school, when they were acquiring a language through experiencing exposure to a certain amount of it. “Previous exposure to English” is one of the measures of the current study. “Input” has been used in relation to what is happening to the children after starting school, when they become active

language users, learning it. “Input” implies a more direct and purposeful impact than exposure and it created the “Polish input” measure (Polish schools and holidays in Poland).

2. First and second language development

The extent to which children’s L1 and L2 acquisition resemble each other is a key question in bilingualism. Goodz (1994) suggests that a bilingual child’s language development follows a very similar pattern to that of a monolingual child. Bialystok and Hakuta (1994) also observe that the same strategies are used for first-language acquisition and subsequent language learning. However, Bialystok (2001) notes that one “should not expect language acquisition in each of the bilingual child’s two languages to replicate exactly the pattern experienced by a monolingual child learning only one of those languages because the representational systems for both languages are different” (Bialystok 2001, p.58). The view that there is a qualitative difference between L1 and L2 acquisition is supported by Grosjean (1989) who represents a holistic view of bilingualism and postulates that a bilingual has acquired two or more sets of competencies and might also have another system – a combination of the first two. Grosjean (1989) theorizes that the structure and organization of linguistic skills of bilingual children and their additional competence and psycholinguistic operations taking part in the mixed language production are unique to them. They also differ from monolingual children in terms of the processing systems involved in their monolingual speech (in situations when a bilingual child has to deactivate the language they are not using).

A key factor in the relationship of L2 with L1 in terms of language acquisition may be the time of introducing L2. This concept is not dissimilar to the idea that age is the factor determining whether an individual is or is not able to achieve full proficiency in a language: this constitutes the critical period hypothesis. The hypothesis was proposed by Penfield and Roberts (1959) and developed by Lenneberg (1967). Lenneberg did not apply it to the second language acquisition, but his studies on

accent and pronunciation have provided some evidence that the hypothesis could also be extended to the L2 learning.

Later researchers questioned the biological basis (Krashen 1973) or abrupt nature (Johnson and Newport 1989, Newport 2006) of the critical period. Krashen (1973) pointed out that although the learning of L2 after puberty may be slower than the L1 acquisition, it is definitely possible. Johnson and Newport (1989) suggest that the change in linguistic ability around the age of puberty is not a sudden deterioration but a continuous, gradual decline. They conducted a study of Chinese and Korean native speakers who learned English as a second language and varied in terms of both the age of arrival to the host country and their actual age (Johnson and Newport 1989). The study participants were assessed on their knowledge of English grammar (syntax and morphology). The results show a strong relationship between the age of onset and performance: individuals who arrived in the host country earlier in life scored better than those who arrived at an older age. There was no difference between performance of the native speakers and the group who started learning the language at the age of 3-7 years. However, all the groups whose immersion in the L2 environment occurred when they were older than 7 scored lower than native speakers. Moreover, the individuals from the 8-10 age group performed better than those from the 11-15 age group; and the 11-15 age group did better than the 17-37 age group. There was a negative correlation between age and proficiency in L2 until the age of 15, but afterwards it was no longer significant. The authors' conclusion is that the age after which there is a gradual decline in ability to learn another language is 7-8 years. They concluded that the capacity for learning languages deteriorates with age regardless of early linguistic input and that "human beings appear to have a special capacity for acquiring language in childhood, regardless of whether the language is their first or second" (Johnson and Newport 1989, p.95). Other research of that time supports the finding: the most important predictor for learning the second language is the age of onset, and the length of engagement with a language is not significant (Newport and Supalla 1987; Oyama 1978; Patkowski 1980). However, later evidence indicates that the critical period also depends on other than

age or first exposure factors: social, neurological and cognitive (Long 1990; Robertson 2002).

Hakuta (1987) suggests that there might be a positive relationship between children's age and their performance in terms of the second language acquisition until the critical period, and that after the critical period, their ability to achieve a native-like ability to use a language deteriorates. A possible reason for the initial increase in the learning ability could be that older children have a more cognitively mature system and may simply be better at performing tasks (Hakuta 1987). If this was the case they would perform better not because of their better linguistic competencies, but because of their greater cognitive skills, such as: bigger attention span, better short-term memory, more mature reasoning which would help them solve tasks. Evidence of Muñoz (2008) also supports the view that older learners, as more cognitively developed, are more efficient in terms of the use of learning mechanisms.

More recent research challenges the whole concept of the critical period. Chiswick and Miller (2007) demonstrate that there is no visible drop in L2 (English) learning ability with age among a sample of immigrants in the US. Similar results were obtained in studies with Australian migrants (Chiswick, Lee, and Miller 2004). Birdsong and Molis (2001) and Muñoz and Singleton (2011) suggest that there is no evidence that the "maturational cut-off point" in L2 learning potential exists at all. Muñoz and Singleton (2011) express some critique of the "classic critical-period research design" where learners' L2 acquisition are compared to that of native speakers. They suggest that a more useful comparison would be the one between late and early L2 learners. Using monolingual participants, not including the quality of the L2 experience, and not applying a longitudinal design in critical period studies may have led to the role of maturation becoming a priority factor in language acquisition.

Lopez-Rodriguez (2008) suggests that it is more difficult for a young child than an older individual to learn a language, because they have to learn vast amounts of various materials at the same time. Within a short time, they have to acquire the

form (grammatical rules) and the content (vocabulary). Moreover, they have to absorb not only linguistic knowledge, but also all sorts of other information. However, she reports no research that would support her claim.

According to Grosjean (2010) the view that the earlier a language is acquired by a child, the more fluent they become is a misconception. He is in favour of a broader and more flexible term than the critical period – “sensitive period” which can even be extended beyond ten years of age and depends on the area of linguistic development.

All critical period discussions should take into consideration that there are different areas of language development. In terms of phonology, studies show that infants between six and twelve months are able to make phonemic distinctions, but after this period they lose this ability (Polka, Rvachew, and Mattock 2009; Werker 1995). Evidence coming from the study by Flege and Fletcher (1992) also supports the claim that the critical period for phonology is very short. Their research shows that the years between five and eight years are the critical period for learning a language without a foreign accent. However, the critical age for acquisition for learning phonology differs from the critical age for learning syntax (Kuhl 2010; Lee and Schachter 1997; Weber-Fox and Neville 1996), and the age of acquisition is not correlated with semantics (Birdsong 2006; DeKayser and Larson-Hall 2005). The current study does not involve the phonological aspect of the children’s language development, focusing rather on grammar and lexicon. Nonetheless, it is possible that the lost ability in infancy to differentiate between specific phonemes could be relearned by a child in a situation of second language immersion.

Regardless of whether or not the critical or sensitive period can be extended, the timing of acquisition of L2 is crucial in terms of the question of a relationship between L1 and L2. Pavlenko (2009) distinguishes between simultaneous bilinguals - individuals who learned their two languages from birth and childhood bilinguals who started learning an additional language in their childhood. Similarly Edwards (2008) categorised bilingualism into simultaneous (taking place from a young age) and successive (learning another language after becoming proficient in the first one). In

the case of simultaneous bilingualism L1 and L2 acquisition path may be very similar. In the case of successive (or consecutive) bilingualism, learning the second language differs from the first language acquisition in that the starting point in L2 learning for a child, who has already developed some metalinguistic knowledge and communication strategies of L1, is different to the starting point of a child who is beginning to learn their first language. According to Wygotski (1962), due to the fact that learning of L2 is done through already well-developed structures of L1, acquisition of L2 differs significantly from acquisition of L1. Tabors (1997) writes specifically about the situation of migrant children who acquire their second language in a consecutive way and also suggests that the stages of L1 learning are different than the milestones of L2 acquisition. While acquisition of L1 is a stable development characterized by gradual progress, acquisition of L2 starts with some sort of an impasse. Tabors (1997) proposes that there are four stages of L2 acquisition: (1) attempts to communicate in L1, (2) silence, (3) single words in L2 – telegraphic speech, (4) increase of competence and L2 communication. At first, a child confronted with users of a different language persistently tries to communicate with them in their first language. After they realize that their attempts bring no results, they enter the stage when they stay silent. Eventually they begin to use the language of their new environment. These stages may be reflected in the experience of the Polish migrant children participating in this study who enter Scottish schools, as the described process is particularly relevant in an education context.

The child participants of the current study according to most evidence are still in the middle of the posited critical or sensitive period in terms of their L2 learning. Therefore, they should be able to reach full fluency in L2. The age of onset is similar for all of them and constitutes one variables of the study as well as the amount of language input they receive. The relationship between L1 and L2 is investigated through exploring progress in both these languages. This relationship is explained in more detail in Section 3.2 exploring the influence of L1 on L2 and its acquisition and the influence of L2 on existing structures and development of L1.

2.1 Phonology

The main aspects of language are phonology, grammar, and lexicon. Phonology is a study of linguistics focusing on the sound system of a language, its production and patterns. The most significant phenomenon regarding phonology is that infants as young as one month of age are able to discriminate between words in their own language and words in a different language based on their pitch (Jusczyk, Friederici, Wessels, Svenkerud and Jusczyk 1993). During L1 acquisition children might also experience some difficulties with their native language. Each language has something that constitutes a particular difficulty for children in terms of phonology and results in pronunciation distortions. In Polish it is characteristic softening of consonants (lisp), problems with correct pronunciation of “r”, and consonant clusters (e.g. in the word “wzrost” [vzrɔst]).

Some authors maintain that the development of phonology in a bilingual child is similar to that of a monolingual one (Bialystok 2001; Goodz 1994). Monolingual and bilingual infants start babbling at the same age (Oller, Eilers, Urbano and Cobo-Lewis 1997). However, the natural ability to discriminate between phonemes from various languages (Eimas, Siqueland, Jusczyk and Vigorito 1971) only lasts until the age of 12 months (Polka et al. 2009; Werker 1995). Children’s exposure to a certain language changes their perception and by the time they are six months old their capability to recognize phonemes is altered by their linguistic experience and they create “language-specific phonetic prototypes” (Kuhl, Williams, Lacerda, Stevens, and Linblom 1992, p.608) [see previous section]. As a result, a Polish 5-year-old child learning English as L2 will not have these “prototypes” in their repertoire. Therefore, it may be very difficult for them to discriminate for example between English “ʌ” (“cut”) and “æ” (“cat”) sounds as these two elements belong to the same phonetic category in Polish and there is no need to differentiate between them. The children participating in the current study have to relearn to recognize these phonemes to acquire a skill with which they were equipped when they were babies but which they lost because there was no need to use it in a Polish speaking environment.

The quality of the development of L1 and L2 phonology might differ, because of the influence of the L1. When a child learns their second language some interference from existing phonological patterns might occur in their speech. Research by Flege and Fletcher (1992) with bilingual children who learned their two languages consecutively demonstrated that the years between 5 and 8 are critical for learning a language without a perceptible foreign accent. Moreover, their study found that bilinguals are more accurate in the pronunciation of those phonemes common to both languages. This supports the suggestion that bilingual children's exposure to one sound system has some positive effects on another [see Section 3.2 of this chapter].

Although phonology is not tested in this study, it could potentially influence the children's scores if they cannot present some vocabulary because they lack knowledge of how to pronounce some words.

2.2 Grammar

The main areas of grammar development are syntax and inflection. Developing syntax is a gradual process that follows a certain order: a child starts to follow grammatical rules in their language in the second half of the 2nd year (Strelau 2005) and first she acquires indicative sentences, then imperatives, followed by questions, and exclamations; coordinate clauses precede subordinate clauses (Kielar-Turska 2000).

In regards to inflection, Aitchison (1998) points out that the order of acquisition of conjugation and declension follows a certain pattern suggesting that some aspects precede others. In the 3rd year a child tries to acquire a general rule governing inflection which often leads to overregulation in sentences where an irregular form is required (Strelau 2005) such as: "I drewed a nice picture" (English) or "on jest lepszejszy" (Polish). At 10 years, a monolingual's child's grammar can be described as mature.

Researching bilingual grammar acquisition, Meisel (1993, *cited in Bialystok 2001*) conducted a large-scale study of very young children acquiring simultaneously French and German, exploring the awareness of gender assignments of words in both

languages. Results indicated that bilingual children acquire two syntactic structures in a very similar way to monolingual children in each of the languages. In terms of L1 interference Ionin and Wexler (2002) found that most syntactic errors made by L2 learners were developmental, not attributable to the L1 interference. These results also support the claim that the order of morphemes and grammatical structures acquisition in L2 mirrors L1 development. However, the same study suggested that L2 learners seem to make more commission errors (adding unnecessary speech parts to their utterances) caused by L1 interference. On the other hand, Jia (2003) conducted a study with Chinese-speaking children learning English as L2 and concluded that it took on average 20 months to master the use of the plural form in English, which makes it similar to L1 learners' average scores – where mastery of this form is reached between 17-21 months after language production begins.

Both mentioned areas of grammar are tested in the current study. The English language test is based on the knowledge of syntax and inflection. English tenses are more complex than Polish, which might be a difficulty for the children. The Polish test is more vocabulary-oriented, but it also requires knowledge of grammatical rules because words chosen to complete sentences need to be in the right form. In Polish, nouns are inflected not only in the plural, but also in case and gender, just like adjectives – all of these may constitute a challenge to the child participants. Some studies demonstrated that the distance/proximity between L1 and L2 affects L2 learning (Beller 2008; Cortez 2005; Fledge and Fletcher 1992) [see Section 3.2].

2.3 Lexicon

Lexicon refers to the meaning of the uttered words, vocabulary range and the content of an utterance, and it is tested in the current study in both Polish and English.

Clark (1995) maintains that a child until the age of 6 months learns around 10 words daily. This relation between time and learning progress resembles the linear curve of L2 acquisition (Jaspaert, Kroon, and van Hout 1986). According to Strelau (2005) word acquisition is connected with the creation of their representations: the

representation of understanding (the record of sounds and their meanings), and the representation of production (information regarding articulation). The representation of understanding is created earlier and is usually broader which is also the case in L2 acquisition. Pierrehumbert (2010) suggests that new words are only learned “in competition” with earlier ones according to the lexical contrast principle (Clark 1983) and that a child listening to new words automatically assumes that they have different meanings than the ones they learned previously. Werker and Stager (2000) demonstrated that young babies require more than minimal phonetic contrast to add a new word to their lexicon. However, there are individual differences in terms of acceptability of words and their dynamic redefining a child’s lexicon. Moreover, the contrast rule does not necessarily apply to bilingual children. They can still assume that each new word has a different meaning than all the “old” words in a particular language, but sometimes they might not know which language a particular word belongs to.

In terms of the size of their vocabulary, a comparison of bilingual and monolingual Spanish-English toddlers by Hoff, Core, Place, Rumiche and Señor (2012) demonstrated that vocabulary production rates in English in bilingual children were lower, but samples were equal on total vocabulary across languages. A similar outcome was observed in the study of Bialystok, Luk, Peets and Yang (2010). Smithson, Paradis and Nicoladis (2014) demonstrated that bilingual French-English school children’s scores were significantly lower than monolinguals on the English productive language scale.

Other authors report that bilingual children’s lexicon is greater than that of their monolingual peers. Paradis (2009) describes an Edmonton study of L2 children with various first languages, where some bilingual children’s average mean length of utterance (the number of words, not morphemes) was higher than that of monolingual children. Finally, some research suggests that there is no difference in lexicon acquisition between monolingual and bilingual children (De Houwer, Bornstein, and Putnick 2014; Pearson, Fernandez, and Oller 1993). A study of De Houwer et al. (2014) with 62 first born babies (13 and 20 months) using French and

Dutch indicated that the numbers of words produced and understood by the participants in both groups (bilingual and monolingual) were similar.

The different results presented above demonstrate that there is a need for careful matching of samples as other factors, such as sociocultural context (Smithson, Paradis and Nicoladis 2014) may play a role in accounting for differences. Conflicting findings might also be explained through differences in terms of the main interest of a study – whether it is L1, L2, or L1 and L2 combined that is explored, and whether the emphasis is on language comprehension or production. Keller, Troesch and Grob (2015) suggest that the gap between receptive and productive L2 competence in pre-school bilingual children is more pronounced in L1 than in L2. Keller et al.'s (2015) study results indicate that the difference between the receptive versus productive competence does not depend on the language familiarity, i.e. on the degree of similarity between L1 and L2 referring to the interdependence hypothesis (Cummins 1979) [see Section 3.2 of this chapter], but on language exposure. Bilingual children with more input in their L2 revealed a smaller discrepancy between language comprehension and language production. As the Polish test used in the current study consists of both receptive and productive tests it will be possible to explore the gap between the children's receptive and productive L1 skills and its change over time.

Another issue worth mentioning that might be affecting L1 and L2 lexicon assessment is the matter of different word frequencies in L1 and L2. The hierarchy of word use varies from language to language due to cultural differences which might influence bilingual children's vocabulary scores in some tests [see Section 4.1.3].

In the same vein, Bialystok (2001) proposes that even if the development of grammar and phonology of bilingual children is similar to that of monolingual ones, variation in input might explain lexical differences between bilingual and monolingual children's development. Moreover, L1 vocabulary acquisition differs from L2 vocabulary acquisition in that the child who already learned L1 is cognitively more mature and able to use their L1 lexicon to draw upon in the process of understanding L2 concepts (Paradis 2009; Winitz, Gillespie, and Starcev 1995).

3. Factors influencing L2 acquisition

The question of factors affecting the linguistic proficiency of a bilingual person is one of the central issues in bilingual studies. Language proficiency is understood as the "ability to function in a situation that is defined by specific cognitive and linguistic demands, to a level of performance indicated by either objective criteria or normative standards" (Bialystok 2001, p.18).

A child's language acquisition is affected by many factors and the final outcome is a result of not only their direct impact, but also the influence coming from a net of relationships between the factors. For example, parental attitudes could affect the children's L1 and L2 development through the amount of input their parents consider appropriate for them. Whether or not they send their child to Polish school could depend on their language and cultural attitudes, just like whether or not they allow their child to play with their British peers. The socio-economic circumstances of a family, on the other hand, could influence the linguistic input a child receives. In this research the amount of time a child spends in Polish school could depend on their parents' financial resources. Similarly, children's participation in extra-curricular after school activities in English could depend on their parents' income. The list of factors influencing L2 language acquisition presented below is not a comprehensive summary. Although cognitive factors are undoubtedly very important elements of the process of language learning, they were not elaborated on because the list focuses on what constitutes the main interest of this study.

3.1 Engagement with a language

A key factor in L2 acquisition is engagement with a language: the more opportunities to use the language and the greater variety of situations in which it can be used, the better chance that a child acquires and develops a language (Haman et al. 2017; Hoff et al. 2012; Unsworth et al. 2014). A child might be exposed to two aspects of linguistic input: quality and quantity; studies suggest that both affect L1 performance (Schwartz 2008).

Regarding quality, the use of more open questions (Hoff-Ginsberg and Shatz 1982) and creating links with the child's previous knowledge (Beller 2008) have a positive influence on a child's language learning. After their observation of 131 American mothers and their toddlers Bornstein, Haynes, and Painter (1998) concluded that a higher mean length of parental utterances leads to a wider range of vocabulary in toddlers, due to the children's ability to filter linguistically complex input. Jia (2003) also reports that the richness of the L2 environment (measured by hours of TV watched weekly, number of books read, number of friends, and the percentage of time L2 was used at home) is correlated with the rate of acquisition of the correct plural form in L2.

In regard to the quantity of linguistic input, there are differences between parent-child dyads in duration and frequency of a language use. Studies on L1 development demonstrated that there is a correlation not only between the amount of parents' speech (measured by the length of their sentences) and their children's progress in the language, but also between the children's progress in the language and the number of adjectives and nouns a parent uses (Hart and Risley 1995).

Research by Mueller Gathercole and Thomas (2009) examined the quantity of linguistic input. Although it was conducted in a stable bilingual (English-Welsh) context, different than the context of the current study, findings still indicated that Welsh, a minority language, unlike dominant English was dependent on language input at home and school (Mueller Gathercole and Thomas 2009). However, Mueller Gathercole and Thomas (2017) did find that young children's Welsh vocabulary, though not grammar, did improve with regular exposure in a six-week intervention to selected Welsh TV programmes. In the current study, prior to children starting school in Scotland, the non-dominant language, Polish, previously constituted the language immersion environment and as such should have an advantage in comparison to Welsh, which has always had to compete with English.

The question whether a human mind is a container with a limited capacity or a flexible and adaptable system capable of adjusting and integrating new structures is quite common in the context of language proficiency. According to Grosjean's

Complementarity Principle a bilingual person acquires and uses their languages for different purposes, in different contexts and with different people (Grosjean 2010). The fluency in languages depends on the input and because the uses and purposes of the two languages are normally different, the bilingual person is rarely similarly proficient in their two languages. The Complementarity Principle has an impact on language fluency. According to Grosjean (2010) “if a domain is not covered by a language, bilinguals will simply not possess the domain-specific vocabulary, the stylistic variety, or even sometimes the discursive and pragmatic rules needed for that domain” (Grosjean 2010, p.31). The complementarity Principle also indicates that not all bilinguals are good interpreters and translators: these skills depend on specific cognitive domains they cover with both languages. The person who is a photography expert in English might find it problematic to translate specialised text on this subject, simply because he or she will not have their equivalents in his or her other language repertoire. As Baetens Beardsmore puts it: “language functioning (...) is closely tied to the activities and experiences one goes through in life; it is highly unlikely that a person who has concentrated his time on a particular set of activities in one language has had equal opportunity to do the same in another.” (Baetens Beardsmore 1986, p.7). This concept also applies to migrant children who are this thesis’ focus. Generally, home is an L1 environment and school is the place to learn L2. Consequently, migrant children acquire different linguistic contents at school and at home, i.e. what they acquire at school is more academic and what they acquire at home is typically simple, everyday vocabulary (Wells 1986). This characteristic is one of the features of consecutive bilingualism, where, unlike in simultaneous bilingualism, L1 and L2 do not reinforce each other and do not cover the same area.

Research by Haman et al. (2017) is particularly relevant to the research in this thesis. The bilingual participants were Polish children aged 4 to 7 (years) whose parents migrated to the UK. To establish whether L1 and L2 experience affected the children’s L1 performance, they assessed four language domains: grammar, vocabulary, phonological processing, and discourse and compared them to the language development of the children’s Polish non-migrant monolingual peers. Apart

from language proficiency, the variables in the study were age, SES (measured by years of mother's education), short-term memory (as measured by forward digit span), non-verbal intelligence (measured by Raven's Coloured Progressive Matrices), age of first L2 contact, as well as L1 and L2 cumulative exposure. The two last variables applied only to the bilingual child participants. The children's exposure to L1 and L2 was calculated by taking into account the children's time spent in Poland, time spent in the UK, and exposure to L1 while in the UK. The children's receptive vocabulary was measured with the Picture Vocabulary Test and their productive vocabulary – with the use of the Picture Naming Task. The Test for the Reception of Grammar was a measure of receptive grammar and the Sentence Repetition Task – a measure of productive grammar. Phonological processing was tested with the Non-word Repetition Task and discourse was measured with the use of the LITMUS-Multilingual Assessment Instrument for Narratives. The bilingual children scored lower than monolingual children in all but discourse. Differences were observed on both productive tasks and receptive tasks in grammar, vocabulary and phonological processing. The L1 exposure affected positively the vocabulary and phonological processing and only the grammar skills of bilingual children were not influenced by the amount of L1 input.

Miękisz et al. (2016) also studied Polish bilingual children in the UK, aged 24 to 36 months. The research demonstrated that although the L2 exposure influenced positively the children's vocabulary in L2, the L1 home exposure had no impact on their L1 scores. A possible reason for these different results on language input could be the difference in the ages of participants. There are also some methodological differences in the measurement of language exposure. Haman et al. (2017) estimated the intensity (the number of interlocutors) and the quantity (the number of language exposure hours) of language input from the children's past and present. Miękisz et al. (2016) used a measure based on the frequency of use of each language by each family member and asked only about their current situation. Linguistic input also constitutes an important part of the current study [see Chapter 6].

3.2 Influences between L1 and L2

Another important influence on children's L2 acquisition is their first language, its proficiency and the degree of similarity to L2. Some authors maintain that there is bidirectional influence between languages and that the development of the first language has functional significance in the acquisition of the second language (Cummins 1987; Danesi 1990; Pavlenko 2009; Skutnabb-Kangas and Taubomaa 1976). Pavlenko (2009) suggests that this cross-linguistic transfer can cause two languages to influence each other either in a negative or in a positive way.

3.2.1 Transfer

3.2.1.1 Positive transfer – benefits for L2

According to Cummins' theory of developmental interdependence of languages (Cummins 1979, 1987), L1 has a positive linguistic and educational influence on L2. Additionally, native language skills (for example concept formation, subject knowledge, literacy) confer advantages for later school achievement (Bialystok 2001; Cummins 1979, 1991, 2001; Geva and Genesee 2006; Skutnabb-Kangas and Taubomma 1976). The interdependence theory states that the development of competence in L2 and L1 is interdependent and is a function of skills already developed in L1 at the beginning of exposure to L2. This is possible because both languages, apart from having language-typical surface features, share common "underlying proficiency" which allows bilinguals to transfer their competence from one language to another (Cummins 1979, 1987, 2000).

Cummins' threshold theory (1979, 1987) proposes that there are a few threshold levels in language proficiency. A bilingual child must attain certain levels in order to be able to use cognitive benefits resulting from interdependence of languages. The theory also states that, in order to achieve linguistic competence in a second language, the child has to pass an age appropriate level of proficiency in their L1. This theory introduces three types of bilinguals (proficient, partial, and limited) and elaborates on two different ways of development of bilingualism (additive and subtractive) (Lambert 1977). The criterion for the division between additive and

subtractive bilingualism is vitality of both languages. In the case of additive bilingualism, the person acquires L2 and adds it to their repertoire of competences at no cost to their L1 skills. With subtractive bilingualism – the first language is replaced with the second as might often be the case in a situation of migration, particularly to a country with a subtractive education context.

The threshold theory and the developmental interdependence hypothesis are both based on Cummins's claim that children's knowledge and skills (such as concept formation and learning strategies) can be transferred across languages (Cummins 1979, 1987). Therefore, uninterrupted L1 development is a crucial factor for overall cognitive development and transfer skills acquired while learning L1 onto structures of L2 (Collier 1995; Cummins 1979).

There is a substantial amount of evidence that supports Cummins's interdependence hypothesis. The study with 7-10-year-old Finish migrant children carried out by Skutnabb-Kangas and Taikomaa (1976) demonstrated that only when children's L1 is sufficiently mastered, can they succeed in L2. The migrant children participating in the study who came to the host country at an earlier age performed at school worse than children who arrived there later, after starting school. Their conclusions were that an adequate level of competence in the children's L1 helped them manage the new language system. The authors suggest that only when competence in L1 reached the native speaker level, bilingualism affects children in a positive way giving them a foundation for L2 learning (Skutnabb-Kangas and Taikomaa 1976).

The transfer between languages is more visible in some areas of language knowledge, and less in others. Many studies confirm that the ability to produce a structured narrative might carry over across languages (Haman et al. 2016; Kupersmitt and Berman 2001; Pearson 2002). Kupersmitt and Berman (2001) conducted a study with bilingual children (Spanish and Hebrew) between 4 and 12 years old. The children were asked to tell a story in their two languages and then their narratives were analysed in terms of language knowledge and their ability to use language in context. The findings suggest that the narrative structure had universal,

language-independent characteristics. Moreover, the ability to generate a story following a certain script was more dependent on age and cognitive skills than on what particular language it was told in. A study by Pearson (2002) with bilingual (Spanish and English) and monolingual children also indicates that the narrative skills are transferred across languages. The study found that elements of a narrative (story structure, meta-cognitive and evaluative statements, and flow of information) were carried from one language to another unlike elements that were language-specific, for example conjunctions or noun forms. Additionally, a child's narrative competence in one language was predictive of his or her narrative competence in the other. Schwartz and Shaul (2013) in their longitudinal study with 3- and 4-year-old bilingual children (speaking Russian and Hebrew) tried to answer the question whether the maintenance of the native language hampers the children's second language acquisition. Their results indicate that continuing L1 development do not impede children's progress in terms of their ability to create a narrative in the L2 and also confirmed the existence of a narrative transfer from one language to another. These findings were supported by other studies with Latino (Guglielmi 2008) and Belgian children (Dalesi 1990).

Some authors suggest that the native language competence is predictive of later L2 literacy skills (Cummins 1979; Guglielmi 2008; Liu, Benner, Lau, and Kim 2009). Cummins (1979) argues that in bilingual children a solid knowledge of L1 is an indicator of the future strong literacy skills in L2 and that "mother tongue promotion in the school helps develop not only the mother tongue but also children's abilities in the majority school language" (Cummins 1979, p.18). According to Dalesi (1990), literacy competence in the native language acquired from an early age is a factor that contributes to academic success of bilingual children. His study with Italian children (between grade one and six) speaking Italian, Dutch and French showed that these who attended schools where they were taught in their native language (Italian) were also more proficient in French and Dutch, their additional languages. From this study Dalesi (1990) concludes that "the literacy related skills developed in the mother tongue have allowed the child to abstract general notions or 'algorithms' of language

structure and function. These, in turn, have been applied to the development of the specific 'softwares' of the other codes." (Dalesi 1990, p.73). Dalesi (1990) also maintains that L1 literacy for a minority language child constitute the "basis for concept-formation". It plays an important role in developing strategies for classification, abstraction, and storage of all the information received, shaping knowledge about the world. This forming process then allows the child to construct general cognitive schemas that are independent of the language. Bialystok (2008) suggests that in terms of the bilingual children's knowledge of print - those who have experience with different writing system might be more advantaged than monolingual and other bilingual children. In her research (Bialystok 2008) children who were learning about two different writing systems performed better in the task in which they were required to decide about the length of words when the referent size of those words changed and even conflicted with the words' size.

Some elements of the interdependence theory are present in the "interlanguage hypothesis", which sees the language used by a person learning L2 as independent system, containing components of the learner's L1 and L2, well as its own interlinguistic features (Han and Tarone 2014; Selinker 1972). The interlanguage hypothesis emphasizes motivational, social and emotional aspects of L2 learning, for example the lack of acceptance by the L2 group or insufficient input being a result of limited acculturation. In this approach similarities between L1 and L2 also play an important role.

An important factor that needs to be taken into account in a discussion regarding linguistic transfer is a degree of similarities and differences (language proximity versus language distance) between the languages being learned. The fact that L1 is a phonetic language (as in the case of Italian) might play some role in facilitating other phonetic languages' literacy acquisition. It is possible that only some specific features of L1 contribute to the successful acquisition of L2. It is argued that the transfer depends on the distance between acquired languages, i.e. on a degree of similarity between them (Beller 2008; Cortez 2005). Structures existing in L1 are used in L2 and

children may learn an L2 that is similar to their L1 more easily than they may learn an L2 that differs significantly from their L1.

The interlinguistic transfer may depend on the degree to which the writing systems of the two languages resemble each other. Some languages are alphabetic (e.g. Polish or Russian) and some ideographic (e.g. Chinese or Japanese). Languages might also differ in terms of their correspondence between written and spoken form – in the case of some languages this relation is easy to detect (they have shallow or regular orthography – like Polish, Russian and Spanish) and in the case of others it is hard to detect (they have deep or irregular orthography – like English or French). Huang and Hanley (1994) compared three groups of 8-year old children (speaking Chinese, speaking English, and speaking Chinese and English) checking three skills: phonological awareness, reading ability, and visual skills. They found that - in the case of Chinese speaking children - phonological awareness was not correlated significantly with the reading ability. In contrast the role of phonological awareness was an important predictor of the children's literacy for the English sample. Cheung, Chen, Lai, Wong and Hills (2001) observed that children who were learning to read Chinese in alphabetic script performed better in a reading task than children who were learning to read only the character system of Chinese, but they were not as advanced as English-speaking children who were only learning to read an alphabetic script. This research indicates that language-specific factors should be taken into consideration while researching the matter of reading skills transfer. Melby-Lervåg and Lervåg (2011) observed that the closeness of the writing systems of L1 and L2 was significantly affecting bilingual children's decoding scores. Guglielmi (2008) demonstrated that although for Latino American students' heritage language proficiency was an indicator of later English reading proficiency and school success this was not the case for Asian American students. Different alphabetic structures of European and Asian languages could constitute a possible explanation of these results. In the same vein, Flege and Fletcher (1992), studying Spanish and Chinese speakers, found that the more similar L1 and L2 are in terms of linguistic features, the easier the process of second language learning.

In the case of English and Polish, the focus of the current study, although they are both Indo-European languages deriving from Latin, they belong to two different language families (English to Germanic and Polish to Slavic). Consequently, they share many common words, but their phonology and grammar differ substantially. In regard to phonology there are sounds in Polish that are not present in English (for example a hard “ś” sound which is nothing like English soft “j”) and vice versa (for example “dź” or “t” sounds which cause so much trouble to a Polish native speaker trying to practise them). For grammar, the difference is huge: from masculine and feminine common nouns’ endings which almost completely disappear in English but are an important part of the Polish language system, to tenses (16 tenses in English versus three in Polish) [see Section 3.2.1.2]. Polish and English both use Arabic letters and originate from Latin words, but they might not support or interfere with each other as could happen within more similar languages, such as Spanish and Italian.

Most of the above studies and examples apply to the L1 affecting L2 or to their influence on each other, but L2 also influences L1 on all levels, affecting phonology, lexicon, pragmatics, and the underlying representation of concepts (Pavlenko 2000). According to Pavlenko (2000) this influence is reflected by borrowing, convergence of L1 and L2 into one system different from both languages, restructuring transfer, shift from L1 to L2 values, and finally in L1 attrition. It can also increase the metaknowledge and contribute to better awareness of the structure of the more dominant language.

The relationship between L1 and L2 of the child participants of the study in this thesis is an important feature. However, the results might not indicate whether children require a certain level of language proficiency before their bilingualism can have positive effects because of the age and circumstances of the children who took part in the study. Their L1 is not yet fully developed and their L2 learning has just started, the timescale of the study is limited and therefore not all conditions for investigating the linguistic transfer are met. Additionally, narrative and literacy, areas where linguistic transfer is most visible, are not covered by the current study. The children’s development of Polish has been interrupted, their L1 acquisition has not

been progressing as it normally would due to their situation, and at the age of 5 years they are too young for the process of their L1 acquisition to be complete. However, on the other hand, they are young enough for this not to be affecting their L2 learning in any way, so their L1 acquisition might not be affecting their L2 at all.

3.2.1.2 Negative transfer – language errors

Negative transfer is usually considered in regard to linguistic elements such as syntax, morphology, or lexicon. The interference is bidirectional, but it is more common for the more dominant language to be influencing the non-dominant one.

As regards syntax, a study by Haman et al. (2016) demonstrated that although the amount of L2 exposure had a positive impact on their narrative skills in L1, it also negatively affected children's L1 productive grammar scores. A study with German/Italian speaking children by Kupisch (2007) found that although the bilingual children acquired German determiners before their monolingual peers, they also showed a slight delay in the acquisition of Italian articles.

Polish and English grammatical transfer may be reflected by a few types of mistakes. Tenses constitute one of the main source of errors and a considerable difficulty for Polish speakers of English. In Polish, tenses are not as numerous as in English. The difference between some tenses, e.g. simple present and present continuous needs to be deduced from the context; subtle changing of meaning in regard to imperfective and perfective aspects are conveyed by making small changes to elements of verbs.

An example of a potential source of a mistake for an English native speaker expressing themselves in Polish would be dependence of all verbs, nouns and adjectives on cases (declination and conjugation).

In Polish, questions are created by adding a grammatical particle "czy" [English: whether] at the beginning of a sentence. In English questions are usually created by using inversion, i.e. changing the word order. Using inversion in Polish or the particle at the beginning of a sentence in English would be an example of a syntactic error.

Whilst insignificant in Polish, word order and accent play a very important role in English. Word order in Polish is rather determined by semantic and pragmatic

factors than grammatical ones, therefore for a Polish native speaker it may be difficult to pay more attention to the order of words in their English utterances. Similarly, the fact that an accent can change the meaning of a word for a Polish speaker is almost impossible to accept.

Another potential mistake could be transferring Polish masculine and feminine forms onto English nouns for example in a sentence: “there is a table in the room; he is standing in the middle”.

Both definite and indefinite articles also pose a great difficulty for Polish speakers, because there is no such a grammatical category in Polish. Whether a noun is assessed by a listener as a definite or indefinite article is based mainly on the context.

In terms of using negatives – the helping verb “do” does not have a Polish equivalent, as a negative is made by adding “not” to the beginning of the sentence. On the other hand, the way negatives are made in Polish could be another source of errors. Double negative is a rule in Polish, therefore a sentence such as: “Nobody does not go to this school” or “I do not like nothing here” are perfectly correct. However, in English there is only one negative in a sentence and an English native speaker may hesitate before using it in Polish.

In regard to lexicon, Odlin (1989) presents four consequences of the negative transfer between languages: production errors, underproduction, overproduction, and misinterpretation. Production errors consist of two types or errors: substitutions and calques. Substitutions refer to the use of one language form in the place of another, for example using “jogging” instead of “*bieganie*” [English: running]; calques errors are literally translated expressions that reflect another language structure – such as “*adresować problem*” based on the English “address the problem”, in Polish used incorrectly. Underproduction occurs when a second language learner tries to avoid using language structures that are very different from the structures of their dominant language. Consequently, as a result of this avoidance, other structures (the ones that the learner can use with more confidence as they are more similar to L1) are overused, leading to overproduction. Finally, misinterpretation involves some dominant language structures affecting the interpretation of the other language.

In terms of phonology Sinha, Banerjee, Sinha, and Shastri (2009) call interference between L1 and L2 a "dysfunction" and claim that native language phonology features differ in terms of their frequency and that the ones that are more often used have a high level of prominence. These more prominent features affect a learner's perception of newly acquired L2 sounds.

According to Takahashi (1996) semantic errors are more frequent than syntactic ones. On the other hand, Thomason (1981) indicates that the negative language transfer is more visible in pronunciation and syntax than in lexicon.

A study by Cortés (2005) demonstrated the most important factors affecting the linguistic negative transfer are the proximity/distance between L1 and L2, age of learners, and the context of learning. According to Derakhshan and Karimi (2015) negative transfer occurs when the structures of L1 and L2 are different, and when they are similar the transfer facilitates the L2 learning. This view can be challenged as sometimes the proximity of two languages can also trigger interference. Cortés (2005) suggests that both positive and negative language transfer occur due to resemblance of L1 and L2. On the other hand, in the case of two languages with completely different structures any type of transfer might not be common. Age of learners is another variable influencing the language transfer, with adults being more susceptible to transfer than children (Cortés 2005). A study by Baker, Trofimovich, Flege, Mack, and Halter (2008) demonstrated that children were better at avoiding phonology language transfer. In regard to the context of learning, Cortés (2005) points out that L2 learning only occurs in the case of consecutive bilingualism, and that for simultaneous bilinguals' language development is called language acquisition and takes place in a completely different environment situation. She suggests that language transfer occurs more frequently in consecutive bilinguals.

3.2.2 Code-switching

Another issue associated with L1 influence on L2 is using two languages in one utterance, so called "code-switching", common in bilingual children. It may be interpreted as a sign of confusion (Hurlock 1985) or the lack of access to the language spoken (...), but also as an audible sign of the presence of two (or more) different

codes at the disposal of a bilingual person's repertoire (Grosjean 1989; Edwards 2008). Grosjean (1989) explains that switching between two languages occurs through L1 influencing L2 on a neuropsychological level. The involuntary influence is shown through interferences that appear in a bilingual person's speech in a form of deviations from the language being used due to the presence of the other language, which needs to be constantly "deactivated". However, it has to be stressed that bilingual speakers often switch languages purposefully and intentionally. It is often a result of the speaker's judgement of certain requirements of the situation and careful choice. The word interference implied some sort of error and involuntary lapse therefore by some authors it was replaced by the term *transference* (Edwards 2008).

There are a few types of language transfer and a few ways it can be categorised. The main distinction used is between intersentential (sometimes called inter-utterance or extrasentential code-switching) and intrasentential (intra-utterance) code-switching. Intersentential code switching involves language changes outside a single sentence or a clause, for example: "I'll do it right now. *Ale właściwie dlaczego to nie może poczekać?*" [Polish: "But actually why can't this wait?"]. Intrasentential code switching consists in shifts in used language that occur within a single utterance, in the middle of a sentence, for example "*Byłam bardzo taka... upset kiedy to się wydarzyło*" [Polish: "I was very kind of... upset when it happened"]. This type of code switching requires more fluency because a speaker has to switch to the rules of syntax of the other language.

A language transfer on a big scale is called borrowing. If a word, originally belonging to another linguistic code, becomes widely used it is referred to as inter-language borrowing (Edwards 2008, Grosjean 1989), for example the Arabic word "alcohol" has been permanently incorporated into Polish, English and some other languages. If a borrowed word is actually translated into another language it becomes a "calque" (a copy). A good example will be the English "skyscraper" that in Spanish turns into "*rascacielo*", and in Polish into "*drapacz chmur*".

Code-switching can also be categorised according to the size of the transferred element. Morphological transfer occurs when the word's features change in order to

comply with the morphological characteristics of the other language which for example happened in the case of the word “kartofel” (Polish: potato) - a German noun “kartoffel” has been borrowed and modified – a double letter foreign to the Polish language disappeared. This type of transfer Grosjean (1989) calls “speech borrowing”. A word from another language is changed in such a way that it can be adopted into the language that is being spoken; its stem usually stays the same and its ending is altered to match the typical ending of the other language conjunction, inflection or declension. This sort of transfer can occur on a national level (as in the just described example”) and on an individual level, for example a made up word “jumpować” - an alloy of the English verb “jump” and the Polish infinitive ending: “[-atɔ]” or a word “kandelka”, a diminutive for a candle, created from the English word “candle”.

Syntactic transfer takes place when the whole phrase has to be changed in order to accommodate an originally foreign linguistic feature, such as using inversion used to create English questions, for example “Jest to nasz autobus?” instead of the correct “Czy to nasz autobus?” (Polish: “Is this our bus?”) without the inversion.

According to Edwards (2008) the best example of phonological transfer is a foreign accent present in the speech of a bilingual person and very difficult to avoid. This is also the case in prosodic transfer (differences in stress and intonation patterns).

There is also pragmatic transfer involving communication patterns (Bou-Franch 2012) which might be transferred from L1 to L2 and vice versa. Languages differ greatly in terms of formality, directness and politeness rules. Some languages are more formal (Polish), some less (English); some are more direct (Hebrew), some less (Japanese). The language-specific communication protocols can be transferred from one language to another, for example a Polish person with British English as a second language may increase the frequency of words “thank you”, “please” and “sorry” in Polish.

Grosjean (1989) identifies two different types of interferences: static and dynamic. Static interferences have a stable nature and tend to be permanent (for example a foreign accent); dynamic interferences are random and accidental interruptions from

the deactivated language (for example use of stress “borrowed” from another language).

Grosjean (1989) also introduces a concept of speech modes (language modes), i.e. a situational continuum between completely monolingual and completely bilingual linguistic behaviour. A bilingual person is in a monolingual speech mode when they communicate with monolingual listeners and in a bilingual speech mode when they speak to bilingual interlocutors who share their language. Grosjean (1989) claims that bilingual individuals’ speech sounds are quite different in each mode. In the monolingual speech mode bilinguals “adopt the language of the monolingual interlocutor and deactivate, as best they can, the other language” (Grosjean 1989, p.9). This deactivation is never full and reveals itself in the phonological, lexical, syntactic and semantic interferences a bilingual speaker generates. In the bilingual speech mode both languages of a bilingual person are activated, and the two codes frequently intermix when needed which is called by Grosjean (1989) “language mixing”. Switching languages completely at the level of a word, a phrase, or a sentence, i.e. “code-switching” refers to a “complete shift to the other language” (Grosjean 1989, p.10). According to Grosjean (1989) the choice of the mode chosen by a bilingual person depends on the situational factors such as interlocutors, topic, and purpose of the interaction.

There may be many reasons for code switching. Altarriba and Santiago-Rivera (1994) maintain that code-switching has affective reasons. It is used as a defence mechanism when bilinguals try to distance themselves from emotional content of their native language. These results confirm the findings of studies demonstrating reduced emotional reaction in L2 (Harris, Gleason and Aycicegi 2006; Pavlenko 2004; Pavlenko 2014) [see Section 3.5 of this chapter]. Heredia and Altarriba (2001) posit that bilinguals code-switch when a word they are looking for is not accessible in the language being used.

Grosjean (2010) admits that, in line with the complementarity principle - sometimes bilinguals lack terms from a particular domain in the language of their narrative and borrow them from another language to be able to convey certain ideas.

However, according to Grosjean (2010), the main reason for code-switching is that a bilingual person can express some concepts better in a certain language and code-switching allows a person to have “cream with coffee instead of just having it black” (Grosjean 2010, p.53). Many bilingual people adopt words from their second language, introduce them into their first language speech (or vice versa) and use them simply because these foreign terms are more precise and expressive than terms used in the language of their narrative. This may be done when a short expression in one language requires a few sentences in another language, for example the English expression “window shopping” does not have an equivalent in Polish and it would have to be explained with the use of many more words. Genesee and Nicoladis (2009) call code-switching a sign of non-equivalence of languages that occurs when a term from one language is assessed as more adequate than a term from another, and a “useful, sophisticated, and rule-governed feature of language use” (Genesee and Nicoladis 2009, p.330-331).

The fact that a bilingual speaker sometimes does not know the linguistic competence of their interlocutor or listener and consciously hopes that they will be able to understand more than could be assumed might be another reason for using code-switching. This would be particularly salient when the two languages used by a bilingual (one of which is shared with an interlocutor) are from the same language group or stem from the same phylum of languages (i.e. Indo-European language family).

Other reasons for code switching include various communicative or social strategies, such as marking group identity, raising someone’s status or showing expertise. Many authors assert that code-switching serves a constructive purpose and has many other pragmatic functions (Edwards 2008). It is used as an appeal, to quote, in order to change a topic, for emphasis (Genesee and Nicoladis 2009; Goodz 1989), to fit the word to the topic, to help the interlocutor understand, to strengthen intimacy, or to find “a nuance unavailable in the other (language) variety” (Edwards 2008).

Genese and Nicoladis (2009) emphasize that code-switching in children is a mechanism similar to the same phenomenon in adult code-switching. A study conducted by Goodz (1989) showed that bilingual parents sometimes speak to their children using elements from different languages so in bilingual homes code-switching might also be a result of modelling by parents.

Genesse and Nicoladis (2009) suggest that the occurrence of code-switching in children depends on three elements: the nature of the speech element that is transferred to another language utterance (whether it is a function or a content word); on the language of the conversation (whether it is the language a child is more or less proficient in); and on the context (whether listeners are bilingual or monolingual). Children's code-switching does not occur as a consequence of any sort of confusion or problems with language learning (Genesee 1989; Genesee and Nicoladis 2009), but serves to fill gaps in the developing lexicons and grammars (Vihman 1985) and should be "viewed as a step forward in metalinguistic and pragmatic sophistication" (Vihman 1985, p.317). She observes that children simply replace one word with another in order to cope with demands of a conversation, when they do not know the proper word in one of their languages. Grosjean (2010) maintains that children's code-switching is a reflection of their wide repertoire of linguistic solutions and an attempt to achieve their pragmatic goal, i.e. communication with other people.

Whether a language transfer is negative or positive largely depends on a point of view, for example code-switching involving lexicon can be perceived as creative and code-switching based on phonology can be viewed as "interesting" or "sexy". Semantic and phonological transfer is usually tolerated to a greater extent than the syntactic one. The border line between what is accepted and what is not is fluid, ever changing, due to the social nature and communicative function of a language.

Nonetheless, along with the general trend in bilingualism perception, from emphasizing its disadvantages to focusing on its advantages, the perception of code-switching has changed and it is not viewed as an unhealthy and disruptive process or a sign of deficiency and confusion (Hurlock 1985), but a useful feature with a specific

function (Edwards 2008; Genesee 1989; Genesee and Nicolandis 2009), and the reflection of linguistic knowledge and sophistication (Grosjean 1989; Vihman 1985). According to the NAEYC, it “demonstrates children’s efforts not only to practice multiple languages, but also to successfully navigate multiple cultural markers, norms and values in order to communicate effectively” (NAEYC 2005, p.10).

Some authors consider any inter-linguistic interference to be a positive and highly creative phenomenon and consider the view that the direct contact of two languages is something abnormal a consequence of adopting a monolingual perspective. Marchi (1990) uses the term “linguistic mobility” to eliminate any negative connotation of the word “interference”. She associates migration with language development and creativity where migration increases creativity in language and language in turn is a condition of a successful migration outcome. García (2009) uses the term translanguageing which is defined as the intermingling of linguistic features from different languages by bilingual children (García 2009; Hornberger and Link 2012). Translanguageing is viewed as “not only (...) a language practice of multilinguals, but as a pedagogical strategy to foster language and literacy development” (Hornberger and Link 2012, p.242), therefore something that might enhance the process of education (McPake, O'Hanlon, Wilson, and MacDonald 2017; Wei 2014).

3.3 Gender

The intercultural study of Eriksson et al. (2012) indicated that girls are ahead of boys in language skills and that the differences between them are statistically significant. Kern’s (2007) study results support the findings that girls score better in terms of lexical production and labelling. Other studies report marginal difference between genders. Hyde and Linn (1988) concluded that “the magnitude of the gender difference in verbal ability is currently so small that it can effectively be considered to be zero.” (Hyde and Linn 1988, p.33). Hyde (2005) considers gender differences to have been overestimated through the years due to the social context and cultural and historical aspects. These findings were confirmed by Fenson et al. (1994) as well as Eriksson and Berglund (1999) who emphasized that whilst girls’ advantage in

language acquisition is consistent and intercultural, its magnitude is small and accounts for around 1% of the variance.

3.4 Social factors

3.4.1. Social circumstances

Bialystok (2001) focuses on children's bilingualism and emphasizes that the reason for becoming bilingual (e.g. migration, dislocation, education) plays a crucial role in L2 learning and might influence some of the conditions associated with bilingual proficiency: parents' expectations; language proficiency in L1 (already discussed in section 3.2); purposes for which L2 is used; recognition of L2 within the community; and L2 group identity. All these factors, except for the proficiency in L1 which could be considered linguistic and cognitive, are of a social nature. The bases for Bialystok's (2001) conclusions are her own and other authors' research studies, which often include socio-economic variables in their second language proficiency research. According to this approach, in a family, parents' expectations regarding their children's L2 acquisition will differ, depending on the reason for adding L2 to L1. If children (who react to these expectations) see the change in their circumstances as forced, unnecessary or negative, they will be reluctant to learn L2 or even refuse to use it. If they find the change positive and for example feel that they contributed to the decision to migrate, they will be more likely to have a positive attitude towards L2 acquisition. All families participating in this study found themselves in a situation when L2 acquisition was required as a result of migration.

Grosjean (2010) also accentuates the role that social factors play in language acquisition and maintenance in children and for this reason his view is particularly useful to the research for this thesis. According to Grosjean (2010) the most important factors are: need for the language in question; amount and type of input; role of the family, school, and the community; and attitude (toward the language, culture and bilingualism). The need is the most important factor – it could be the need to communicate with other family members, friends or carers; to participate in activities; to use media; to preserve a dying language. If the need is no longer there, there will be no motivation to use and maintain their language (Edwards 2008;

Grosjean 2010). In the context of this research it was anticipated that all participating children had the need to develop both English and Polish due to their circumstances. In regards to the role of the family – according to Grosjean (2010) parents should adopt strategies to ensure that their minority language is maintained, such as creating opportunities for children to have contact with extended family members who speak their L1. Grosjean (2010) suggests that the input from L1 speaking friends and extended family members “is precious and shows children that using that language is quite natural” (p.174). To explore this in migrant families, Arriagada (2005) conducted a study with 12 to 14-year-old Spanish-speaking migrant children and their parents in the US. She demonstrated that in family households that included extended family the use and proficiency of L1 was increased. The role of attitude will be discussed in the next section of this chapter.

3.4.2 Socio-economic status

In monolingual families, socio-economic status is a significant predictor of language development, in particular its vocabulary aspect (Hoff, 2006). Many authors (Arriagada 2005; Bialystok 2001; Boyd 1986; Paradis 2009) include socio-economic status (SES) as an important variable in L2 acquisition.

According to Paradis (2009) socio-economic status is not a predictor of adult second language acquisition, but in children is considered a factor that has some effects on L2 learning. In a more recent publication Paradis (2011) furthered this issue in her study of 169 4 to 7-year-old children from families who migrated to Canada. Families’ SES was measured through children’s mothers’ education levels. The results indicated that the level of mother’s education was marginally significant in the child’s L2 acquisition. In research by Golberg et al. (2008), the 5-year-old children of more educated mothers (those with post-secondary education) had more developed vocabulary in their L2 than children of mothers who only completed secondary school. This could be caused by better command of L2 of more educated mothers which in turn would lead to more opportunities for their children to engage with L2 and better access to preschool L2 education. Mothers’ and fathers’ education level is

included in the current study in order to check whether the findings will be similar to the findings of other studies.

In regard to development of L1, mothers with post-secondary education also used more and better quality L1 with their children than the less educated mothers (Golberg et al. 2008). The authors conclude that enhanced use of L1 leads to larger L1 vocabulary which in turns positively affects L2 acquisition. Miękisz et al. (2016) also found in their study with young Polish children living in the UK that maternal education level is positively associated with the children's L1 scores. In the same vein, the study of Mueller Gathercole, Kennedy and Thomas (2016) also showed a strong effect of SES on Welsh and English vocabulary and grammar. However, they observed a pattern in which input, i.e. the use of language at home had more influence on younger children and SES became more important at later ages. Mueller Gathercole et al. (2016) conclude that the reason for this could be that older children are subject to "more subtle fine-tuning of the language" (Mueller Gathercole et al. 2016, p.19). They also provide another explanation – the effect of SES at the early years stage could be masked by the home language effect.

In contrast, Arriagada (2005) and Portes and Schauffler (1994) maintain that children of more educated parents frequently experience L1 loss. She suggests that this parent sub-group, after a lengthy stay in a host country, is less likely to be fluent in their first language; the author proposes this is due to their perception of the importance of L2. Because they see acquisition of L2 as a way to academic and economic success, they may discourage the use of their first language.

Arriagada's (2005) findings indicated that L1 (Spanish) use and proficiency were negatively correlated with SES in American migrants. Arriagada concluded that when parents had a greater L2 (English) competence, the use of their first language was limited and their children were less likely to use it. Boyd (1986) studied migrants from various backgrounds living in Sweden and found that the lower the status of the parents' occupation, the more likely a child was to become an active bilingual.

Nonetheless, conclusions on this topic are not consistent - according to Phinney, Romero, Nava and Huang (2001), in their research with adolescents, the relationship

of SES to ethnic identity is not clear. On the one hand families with higher SES are more likely to become fully integrated into the dominant language group, as a result loosening their ties with their native group, on the other hand they might be able to promote their ethnic heritage and maintain their language to a larger extent, having at their disposal more resources.

It has to be noted that in much of the research, the families' SES was calculated from the parents' level of education and current occupation (Phinney et al. 2001; Scheele et al. 2013). Including the current occupation significantly changes the SES of a family, as many migrants do not have work matching their educational background. In the current study parental level of education was the only component of the SES that was taken into consideration, which needs to be kept in mind during comparisons with other studies.

The results of the presented studies are quite different from each other because their authors emphasized different aspects of bilingual language acquisition. Most studies focus on the link between L2 acquisition and parents' education. Golberg et al. (2008) in their study considered L1 development mainly a factor contributing to L2 acquisition. The studies' designs were different in terms of the age of migrants' children and the length of time they had spent in their host country. More recent research conducted by Scheele, Leseman, and Mayo (2010) suggested existence of a net of complex interactions between SES, home L1 and L2 use, and children's language skills factors. Their findings demonstrated that the influence of SES on children's vocabulary was mediated by the L1 language input effect (Scheele et al. 2010). In contrast to these findings, the results of the study conducted by Hoff, Burridge, Ribot, and Giguere (2018) suggest that the relationship between a mother's education and their children's language skills is language specific. Only maternal education in a specific language benefits this particular language competence in children, i.e. their education in L1 is reflected in their children's performance in L1, but not L2, and the other way round – maternal level of education in L2 is reflected in their children's performance in L2, but not L1 (Hoff et al. 2018). More research on

parents' educational background in relation to language use at home is needed in order to explore this issue further.

3.5 Affective factors

Although most studies to date paid a lot of attention to cognitive factors, the notion that there is a link between language acquisition and affective factors is not new. Some authors even claim that affective variables such as language shock, culture shock, attitude, empathy (Schumann 1975); motivation (Gardner and Lambert 1972); or ego permeability (Guiora and Acton 1979) are the most important factors in L2 acquisition. Other authors on their lists of variables influencing L2 acquisition include affective factors such as anxiety (Robertson 2002), motivation and child's personality (Paradis 2009) and suggest that affective factors play an important role in language acquisition, particularly in children (Pavlenko 2004, 2006, 2009).

3.5.1 Attitudes – psychological aspect of adding L1 to L2

Attitudes are generally defined as “underlying psychological predispositions to act or evaluate behaviour in a certain way” (Pavlenko 2009, p.31). Gardner views attitude as an “evaluative reaction” to some object, based on the person's beliefs or opinions about the object (Gardner 2006). Edwards (1985) – as a natural disposition to react in a certain way, either negative or positive.

The connection between attitudes and second language learning outcomes was explored in more detail by many researchers (Gardner 1985, 2006; Krashen 1994; Lambert 1987; Noels 2001; Williams and Burden 1997). Lambert (1987) points out that attitudes are bidirectional, they can be considered as both determiners of L2 achievement (when they play the role of an “input factor”) and effects of L2 skills acquisition (when they are “outcome”). Schmid and Dusseldorp (2010) also suggest that attitudes, motivation, emotions and ethnic affiliation play an important role in development of both L1 and L2. They conducted a multivariate study on emotive factors affecting language attrition. Their participants were three groups of German native speakers, one group of migrants to the Netherlands, one group of migrants to Canada, and a reference group of participants living in Germany. The variables

measured during the study were: language proficiency, sociolinguistic and extra-linguistic aspects (background, language use, language exposure, linguistic/cultural affiliation and identification), and attitudes. Schmid and Dusseldorp (2010) concluded that a positive attitude toward L1 and the heritage culture may lead to successful bilingualism and negative attitudes are a predictor of a higher level of L1 attrition.

In this thesis the emphasis is not on the effects of a child's own attitudes on their L2 acquisition process, but rather on trying to answer the question whether parents' attitudes influence an individual's L2 language acquisition process. According to Oliver and Purdie (1998) "in language learning, as in many other areas of their development, children are similar to adults in that they are strongly influenced by those who are significant to them— people such as their friends and family" (Oliver and Purdie 1998, p.199). Many authors maintain that social environment – especially family - is crucial to children's language learning (Beller 2008; Bialystok 2001; Grosjean 2010; Phinney et al. 2001; Romaine 1995; Super and Harkness 1997; Tsai, Park, Liu, and Lau 2012; Wong Fillmore 1991). Although parents' attitudes and perspectives affecting their children's functioning is to be expected, it is an important and fascinating phenomenon on its own, therefore the relationship investigated will be the one between parental attitudes and children's outcomes. Quantitative measures of parental attitudes allowed the researcher to obtain a wide range of answers from various domains of their lives. Exploring the children's attitudes, due to their young age, might have involved receiving unequivocal answers based on their recent experience. Furthermore, it would involve the researcher (clearly belonging to one of two cultures they are brought up in) asking them directly questions about their preferences and views. As children are susceptible to suggestion (Vrij and Bush 2000; Zielona-Jenek 2004) an interview or even another quantitative measure would pose a risk of obtaining information influenced by the very situation of being interrogated. To conclude, the current study proposes that the children's L1 maintenance and L2 acquisition could be influenced by their parents' attitudes and that it would reflect the general views dominating in a family.

Studies indicating that there is a relationship between affective factors, such as motivation and attitudes, and language acquisition (Gardner, Lalonde, and MacPherson 1985; Gardner 2006; Lambert and Tucker 1972; Lambert 1987) focus on two different aspects of this relationship: first (psychological), issues associated with affective variables playing a role in L2 acquisition not necessarily in a situation of migration, and second (social), issues linked to acculturation understood as the process of cultural change that results from becoming surrounded by a different culture than an individual's heritage one. The first aspect is associated with the way attitudes within a family influence the child's L2 and L1 development and the way L2 development may affect children's personal attitudes towards the L2 group and L2 itself. The second aspect (associated with acculturation) regards the link between the child's competence in their languages and their socio-emotional functioning, acculturative stress and psychological adjustment in a broader, cultural context [see Section 3.5.2 of this chapter].

As regards the first aspect, in the past, several theories were developed based on the concept that parental attitudes are predictors of children's language learning outcomes. According to Schuman (1975) parents play an active role where they encourage and promote the child's L2 acquisition and there are two types of attitudes parents might assume: active and passive. A parent who plays a passive role might also supervise their children and encourage them to learn, simultaneously however acting ambivalently, communicating to the child negative attitudes towards either L2 culture or the value of learning that language (Schumann 1975). Schuman's theories were developed later by other researchers. Umaña-Taylor and Fine (2004) conducted a study of Latin American adolescents aged 13-20, exploring the extent to which they were subjected to overt (direct) and covert (indirect) ethnic socialization within their family. Overt socialization was defined as teaching and telling children about their culture and covert socialization involved unintentional parental messages to their children, for example the family's participation in their heritage culture practices and using their native language. Findings suggest that sometimes aspects of socialization are transmitted to children indirectly or implicitly rather than directly or deliberately.

Furthermore, as Thornton Chatters, Taylor and Allen (1990) point out, children should not be perceived as passive receptors of messages passed to them by their parents, but as their active interpreters who draw their own conclusions from the information they receive and events they witness.

Grosjean (2010) maintains that as a result of children being “extremely receptive to the attitudes of their parents, teachers, and peers” (Grosjean 2010, p.175) the family’s attitudes toward the language, its culture and bilingualism itself are factors affecting language acquisition and maintenance in children. He theorizes that sometimes parents, teachers and other members of the community transmit prejudices and pass negative messages about certain languages to their children, which does not augur well for its development in the child.

Oliver and Purdie (1998) also support this approach suggesting that a positive attitude to both L1 and L2 is vital for bilingual language acquisition. They maintain that a family’s attitude to L2 and its use at home affects a child’s L2 acquisition. The level of this influence depends on the children’s background, their cultural and linguistic identity. Their research focused on the children’s attitudes towards their two languages. Their study participants were 58 bilingual primary-school children (aged 9-12) whose parents migrated to Australia and who represented three cultural groups: Asian, European and Arabic. The authors investigated the children’s attitudes not only towards their L1 and L2, but also the attitudes the children attributed to their parents, teachers and other children. Other factors that Oliver and Purdie (1998) were interested in were the place of birth, the child’s cultural group, ESL course attendance, and the number of years spent in Australia. Analysis indicated that both Australian-born and the non-Australian born children felt more positive about using English at school and L1 at home. In terms of the attitudes attributed to their parents, teachers and peers, the participating children generally believed that all of them were more positive about their use of English than their use of their mother tongue. They thought that their parents preferred them to use English at school and L1 at home, but they also believed that their teachers, principals and peers not only favoured students’ use of English at school, but also at home. Oliver and Purdie (1998)

conclude that the students face a potential dilemma when they notice a dichotomy between the attitudes of their parents and the attitudes of their teachers/principals/peers. They further argue that L1 is less positively regarded than English and that this may contribute to L1 attrition rates.

Schwartz (2008) suggests that there are several non-linguistic factors influencing language competence and that family plays a critical role in creating children's linguistic environment. She considers parental attitudes particularly important when it comes to their children's L1 development and indicates that parents' attitudes, defined as "application in everyday language management activities" (Schwartz 2008, p.400) have a significant impact on children's linguistic knowledge and contribute to forming their vocabulary. Some parental attitudes, featuring in Schwartz's study as the family policy factors, create an environment beneficial for L1 maintenance and some do not. The research she carried out focused on L1 language maintenance among the children of Russian-Jewish migrants living in Israel. Her participant group consisted of 70 7-year-old children. In addition to assessing the children's L1 (Russian) knowledge, Schwartz (2008) used structured questionnaires to collect information regarding the language policy at home. Her conclusion was that parents' positive attitude towards L1 was translated into their children's positive approach toward the heritage language and their L1 language acquisition, as the parents' language ideology proved to be one of the factors contributing to the children's L1 competence. The other was teaching children to read in L1. The practice to use both languages at home was a variable that influenced negatively the children's knowledge of L1. There were also some other general conclusions that Schwartz (2008) drew from her study. She noticed that if a child is born in the host country – her or his L1 acquisition is inevitably incomplete and unstable. However, the author claims that its development continues in one way or another despite the fact that L2, enhanced as a dominant language, overcomes a child's heritage language even in the most favourable family environment, i.e. even in a situation when the child's parents are very motivated to maintain it. Her conclusion was that the L1 acquisition is supported by parental efforts to teach their children L1 writing.

However, this conclusion may not stand the test of time. The L1 development might continue but it is not clear for how long.

Parental concern regarding a child's language development was an important factor affecting the children's L2 scores in the study of Miękisz et al. (2016). Their results indicated that the size of L2 vocabulary in nursery Polish migrant children living in the UK was negatively correlated with the extent their parents were worried about their children's language development.

Arriagada (2005) also addressed why some migrant children retain their L1 knowledge whilst others do not. She explored Spanish competence among eighth grade (13-14 years old) Latino children in the US, and the way family environment influences L1 use and proficiency. The family-related variables in her study were: family structure ("intact" versus one-parent family, number of siblings and co-resident kin), language context (parents' English proficiency, Spanish as first language, school outside the U.S., native-language use by parents, native-language use by grandparents, native-language use by siblings), family relations (family communication, e.g. "parents check homework", "parents limit watching TV" component). Analyses indicate that family factors such as family structure, family language context and interestingly, family relations were predictors of native language proficiency. Arriagada's (2005) interpretation was that larger families create a better environment for L1 language maintenance because children have more people to use L1 with. Furthermore, the presence of a grandparent (or a co-resident kin) provides opportunities for them to learn about their heritage culture. However, her results suggested that while "co-resident family member" is a factor affecting positively language proficiency, children with more siblings demonstrated lower levels of L1 proficiency. This could be accounted for by the distribution of resources, i.e. the decreased amount of contact with L1 used by an adult in the case of children with many brothers or sisters. For example, in a one-child family a child receives all the attention and time of their parents, in a family with more children this attention and time are distributed among all children. An alternative explanation could be that the quality of the engagement with a language could suffer in larger

families because language modelling among siblings would not be as efficient as during communication with parents; although the quantity of engagement with L1 would be sufficient, its quality would be inferior to that in a smaller family. Another reason would be the potential tendency to use L2 in conversation with siblings attending the mainstream schools based on decoding their shared experiences in the language they were acquiring. The conclusion that the number of siblings affects cognitive development was also drawn by researchers exploring cognitive development of monolingual children (Barreto et al. 2017). Here findings indicated a positive correlation between children's L1 competence and for how long they were exposed to Spanish (L1). Arriagada (2005) also found that family communication increased levels of L1 competence, for example discussing with the children school matters or other L2 activities in their native language improved their L1 proficiency.

Grosjean (2010) suggests that attitudes both negative and positive can have a profound effect on an individual's language learning and usage. In the same vein Phinney et al. (2001) recruited Mexican, Vietnamese and Armenian parents in the US who completed a support for cultural maintenance measure, and their adolescent children who completed L1 competence, ethnic identity and in-group peer social relations measures. Despite differences between particular ethnic groups, there was a significant correlation between the measures of parental cultural maintenance and adolescent native language. They concluded that if families are attached to their first language, they are more likely to try to preserve it and pass it on to their children.

According to Zhang and Slaughter-Dafoe (2009) Chinese migrant parents' attitudes and beliefs affect language maintenance, but this relationship weakens with the children's age. Some parents adopt attitudes presented by the dominant society and pressure their children to favour that language; others try to preserve their native language seeing it as one of their children's resources. However, study findings demonstrate that although the latter group of parents present very positive first language attitudes, they fail to transmit them to the next generation. The authors found that the children's L1 learning attitudes and motivation differed with age, and their "enthusiasm followed a descending pattern with age" (Zhang and Slaughter-

Dafoe 2009, p.89). The authors proposed two explanations: the difficulty of the Chinese language compared to English (cited by older children) and the time they had to allocate to learning it, particularly literacy.

Some authors (Cummings 2001; Gogolin 2002) challenge perceptions of migrant school-children as a “problem to be solved”: they argue that teachers should be proactive in their initiative to create an “institutional climate where the linguistic and cultural experience of the whole child is actively accepted and validated” (Cummins 2001, p.20). Wong-Fillmore (1991) found that there was a correlation between the language of children’s preschool programs and the shift from L1 to L2 use at home. Gogolin (2002) proposes accepting bilingualism as “the mother-tongue” and even introducing foreign languages in very early stages of school education, in which children will learn a subject matter.

3.5.2 Acculturation - social aspect of adding L2 to L1

3.5.2.1 Identity

The construct of identity is included in this thesis because language is “a fundamental structure of an individual’s identity” (Durkin 2004, p.319). A definition particularly salient to this thesis is: a process which includes and is supported by “social cognition, the implications of bicultural and multicultural identification, bilingualism and multilingualism, immigration, acculturation and enculturation processes” (Quintana et al. 2006, p.1130).

According to Bialystok (2001), speaking in a certain language is an element of an individual’s identity. Speakers of different languages may be attributed characteristics depending on their discourse styles. Some national stereotypes are based on superficial verbal and non-verbal communication features and can be interpreted as national or ethnic traits. Bilingual speakers might also react in a different way and assume a different identity when they use one language rather than another. Block (2007) argues that the identity of an L2 learner depends on the context in which this person acquires the L2: the identity of a migrant differs from that of a person learning L2 in an L1 environment (for example at school). He concludes that “sustained immersion in a new cultural and linguistic milieu seemingly

cannot but impact on the individual's sense of self" (Block 2007, p.109). In his case study of Carlos, a Spanish-speaking Latino migrant in the UK, Block (2007) describes the person's life before and after migration, and concludes that the migration experience results in creating new "subject positions" and negotiating a new identity. Block's migrant identity (2007) is based on ways of living in the country of migration: as these change over time, so does the migrant's identity. Nowadays migrants are not necessarily classical immigrants who politically, socially and economically settle in their host country with "little or no expectations or prospect of returning to their country of origin" (Block 2007, p.32); some are individuals who have chosen to occupy transnational social spaces, to live "somewhere else" for longer than could be defined as holidays. Not only do they know that they can return to their country of origin at any time, but they declare that this is their intention. Transnational migrant groups behave in a different way from traditional immigrants in that they "have not made a firm commitment as regards personal and cultural loyalties to the host society" (Block 2007, p.33). Therefore, identity is perceived not as something fixed, but as fluid and continually changing (Anderson et al. 2017; Pavlenko and Norton 2007).

Adults' and children's identity issues differ in a migration context, not only because of the amount of time spent immersed in their two cultures, but also because they are in different stages of their identity development. Quintana (1998) recognizes four developmental levels of recognition of ethnicity and race which can be identified according to increases in age. Evidence indicates that between the age of 3 and 6 years, children categorize themselves and other people according to trait-like and physical features and belonging to a certain ethnic and racial category is perceived as changeable. According to Barrett et al. (2004), when children are around 5 years old, they develop a sense of national identity and are able to give the name of their country. Their knowledge of their own and other countries starts to develop at around this point (Barrett et al. 2004). Sani and Bennett (2004) also demonstrated that, from this age, children may be particularly sensitive to information that is relevant to identity and are able to differentiate between various social identity

categories, even when no physical cues are present (Connolly, Kelly and Smith 2009). When pre-school children realise that they and their peers belong to different national groups and that they differ in what their cultures represent, they become motivated to learn the other group's language by the need to be more like the other group (Wong-Fillmore 1991).

Leman (1990) claims that there is a relationship between the children's language crisis and their identity crisis as "to recognize oneself "speaking" in a certain language becomes one of the supports in the development of a child's identity" (Leman 1990, p.27). Verkuyten (2004) suggests that children experiencing two cultures learn to adapt to their situation and activate their identities depending on contextual cues. Dai, Williams and McGregor (2017) found that Scottish-born Chinese children are sensitive to social context in their identity judgement. She presented a number of vignettes depicting Scottish-born Chinese characters in certain situations to which the children could attribute either Scottish or Chinese identity. They report that in the child participants' eyes the characters would feel more Scottish or more Chinese depending on the cultural context. The children's contextual sensitivity increased with age. Verkuyten's (2004) studies also demonstrate that the language used during testing a bicultural child may affect their orientation and change it towards personal as opposed to social identity.

According to Barrett, "identity phenomena that are exhibited by children in the national identity domain vary (...) dramatically according to the specific national context within which the children are growing up." (Barrett et al. 2004, p.183). The way a child defines and categorizes her or himself has an impact on her or his behaviour, including their motivation and involvement to acquire a new language. Similarly, there might be a relationship between social identity and the children's motivation in school. Ruble et al. (2004) describe several studies showing that children's engagement is associated with their ethnic identity although she acknowledges that there is no direct, distinct correlation between these variables and culture-specific factors.

Finally, parents' sense of ethnic identity is viewed as an important predictor for the intensity of their cultural socialization practices (Hughes, Smith, Stevenson, Rodriguez, Johnson, and Spicer 2006) and bilingualism level (Bialystok 2001) therefore it will influence the parents' cultural orientation and their language attitudes, core elements of this thesis.

3.5.2.2 The construct of acculturation

The second social aspect of developing bilingualism concerns acculturation. Acculturation can be defined in a number of ways. For the purposes of this thesis, Zea et al.'s (2003) definition was adopted. This states that acculturation is "the process of psychological and behavioral change individuals and groups undergo as a consequence of long-term contact with another culture" (Zea et al. 2003, p.108). Elias and Lemish (2008) suggest that after migration families are involved in two processes: an "outward" integration to the host country and an "inward" integration which is based on preservation of cultural values of the home country and family unity. This integrational division into two cultural processes: acculturation and enculturation is further discussed at the end of this Section.

Where the concept of acculturation applies to families rather than individuals, it has been explored mainly in the context of families with adolescent children (Berry, Phinney, Sam, and Vedder 2006; Liu et al. 2009; Lueck and Wilson 2010; Phinney et al. 2001; Ryder, Lynn, and Paulhus 2000). The participants of the current study were families with young children and so research did not focus on their level of acculturation, but on the acculturation of their parents and its influence on their children's L1 and L2 language development.

The topic of acculturation has been approached in different ways. In order to accommodate social factors influencing the process of acculturation Padilla and Perez (2003) proposed a dynamic model based on social cognition, cultural competence, social identity, social dominance, and social stigma. They proposed that migrants' acculturation process is shaped by continuous redefinition and reconstruction of their personal and social identities. After they enter a host country, migrants "form perceptions regarding expectations that members of the dominant group have of

them. Perceptions are likely to affect the process of redefining their identity and whether and to what extent they choose acculturation and membership in the host culture” (Padilla and Perez 2003, p.50). In this model (Goffman 1963) how migrants perceive and interpret a social stigma construct is reflected in their approach to acculturation. Therefore, migrants are not always the ones who make the choice to become acculturated or not. Although in this model many factors that may influence acculturation are added, the basic orientations stay the same as in the model of Berry (2005) presented in the sub-section *Two-dimensional approach*.

La Framboise, Coleman and Gerton (1993) present an alternation model of acculturation, which theorizes that an individual can be bicultural without losing any part of their identity or experiencing a conflict. This hypothesis proposes that it is mentally healthier and more constructive to alternate an individual’s behaviour appropriate to the cultures than to become assimilated. Assimilation here is defined as the process in which a minority group comes to resemble a dominant group and implies some sort of a loss. A very important element of this model is that an individual does not have to choose one culture over another. Moreover, it assumes equal status of the two cultures of a migrant. La Framboise et al. (1993) suggest that in order to effectively function in two cultures an individual has to develop knowledge of cultural beliefs and values; a positive attitude towards both majority and minority groups. In a way this model is an elaboration of the integration orientation of Berry (2005) [see sub-section *Two-dimensional approach*].

One-dimensional approach

Researchers’ view of acculturation has evolved from seeing it as a linear process (Clement 1980; Schumann 1986) based on assimilation to a host culture, to a bilinear and bi-dimensional phenomenon (Berry 2005; Olmedo 1979; Ryder et al. 2000; Tsai et al. 2012). A one-dimensional approach is illustrated by Brown’s (1980) model of acculturation. He proposes that acculturation plays a crucial role in the process of L2 acquisition and introduces his optimal distance model. According to this model, L2 learners have optimal conditions to learn the new language when they find themselves at a particular acculturation stage. Brown (1980) maintains that there are

four stages of acculturation: honeymoon period, culture shock, slow recovery and full recovery – either assimilation or adaptation. During the first stage of acculturation everything seems new, interesting and encouraging. At the second stage – an individual starts to notice differences between their native culture and the host culture and as a result experiences culture shock. The main characteristic of the third stage is slow recovery: a learner begins to master L2 and feels anomie, defined by Brown as the feeling of being placed between two cultures. Brown (1980) indicates that this very stage of the acculturation process and the pressure it generates are the most beneficial to the L2 student's learning as a result of the cultural change that places them outside of both their home culture and the host culture.

Lack of synchronization between acculturation and language learning could lead to learners experiencing problems with L2 acquisition. This model does not include students who learned a foreign language in their home country before even starting the process of acculturation. In his attempt to account for these learners Brown (1980) hypothesizes that people who mastered a language without going through the third stage of acculturation might find it difficult to progress to full acculturation. However, there is a difference between progressing to full acculturation and progressing to near-native use of a foreign language. Moreover, some L2 learners might not wish to acculturate into the new culture but remain separate from it. Schumann (1986) goes even further and maintains that the L2 learner only acquires the language to the extent he or she progresses in the process of acculturation.

Spackman (2012) adopts Brown's model and proposes that the feeling of anomie appears as a consequence of a person feeling distant from their native culture, and at the same time being aware of differences between themselves and members of the host culture. This concept is based on a one-dimensional way of approaching these matters. Spackman (2012) speculates that a person can belong to and be a member of only one culture and any deviation from this is treated as some sort of anomaly causing negative emotions (in this case named "anomie"). This presents a black and white one-dimensional perspective.

Two-dimensional approach

The two-dimensional approach views acculturation to the country of migration as independent and separate from the migrants' enculturation to their ethnic culture (Berry 2005; Ryder et al. 2000; Tsai et al. 2012). Therefore, migrants' exposure to the host culture does not impede their ethnic culture attachment and ties. In Tsai et al.'s (2012) study, Chinese and American cultural orientations of parents from participant families were actually positively correlated which indicates that acculturation and enculturation practices are separate processes and are not mutually exclusive. Thus, a person who relocated and lives in a new culture is able to retain their old cultural identity and simultaneously adopt and develop some new behaviour, values and beliefs typical of the mainstream culture. According to Tsai et al. (2012) this is a result of the independent existence of several domains within cultural orientations such as language use, ethnic pride, social relations, and food preferences. The conclusions of Tsai et al. (2012) are consistent with the findings of Ryder et al. (2000) who conducted research on acculturation of Chinese migrants, and also showed that native and mainstream acculturation dimensions "did not constitute opposite poles of a single dimension" (Ryder et al. 2000, p.52). According to Ryder et al. (2000) these two models: unidimensional and two-dimensional, differ in the way they treat a relation between the heritage culture (an individual's country of birth culture) and mainstream culture (host country culture). The first model is based on the suggestion that the change of identity occurs gradually, and its direction is from the heritage to mainstream culture. Migrants gradually abandon their origin culture simultaneously adopting their host country culture; over the course of time their heritage culture is being slowly repressed by the one that they live in. The second, two-dimensional approach treats heritage and mainstream culture identities as self-contained and independent of each other processes (Ryder et al. 2000).

The two main assumptions of the two-dimensional perspective are that individuals differ in terms of the extent to which their identity consists of culturally based attitudes, values and beliefs, and that an individual can have more than one cultural identity and the strength of each is independent of the strength of the other.

The research method to be adopted in order to explore parental attitudes in this thesis is based on the two-dimensional approach and uses Berry's (2005) cultural orientations model. Berry (2005) introduced a useful framework for understanding the acculturation process and identified four main strategies or orientations used by ethno-cultural groups. They are based on two continua: 1) low-high number of relationships sought among groups, and 2) high-low level of maintenance of heritage culture and identity. The orientations present in the adjustment process of migrants are: assimilation, integration (or biculturalism), separation (or rejection) and marginalization (or deculturation) (Berry 2005) [Figure 2.1]. With assimilation, a migrant shows little interest in their home country culture and prefers focusing on the host country culture. Separation occurs when a migrant tries to maintain their native culture and avoid involvement with the members of the host community. With marginalization, there is no interest from a migrant in either native country culture preservation or in the larger society culture. Integration occurs when a migrant seeks both cultural maintenance and interaction with the dominant culture. According to Berry (2005) *adaptation* is a separate process and refers to gradual changes that individuals undergo in response to external demands. This concept has nothing to do with being better adjusted and more similar to the majority group and might involve resistance in terms of cultural changes. Adaptation is a useful measure of whether an individual can manage their new life well, irrespective of their response to changes.

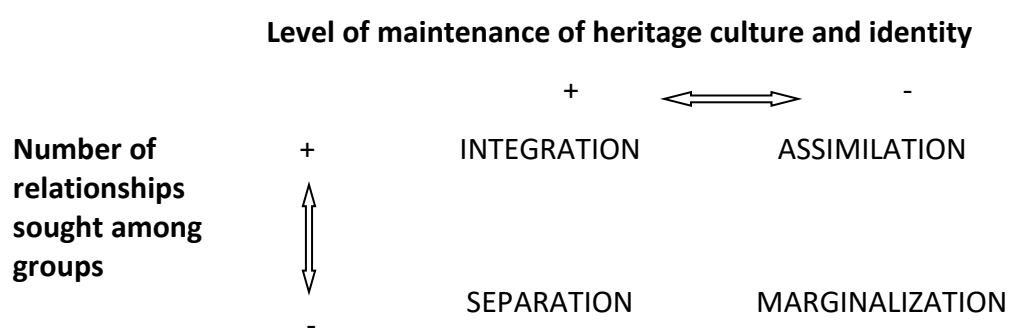


Figure 2.1 Maintenance of heritage culture and identity: four orientations (Berry 2005)

Berry's model was chosen for its recognition of the significance of multicultural communities and acknowledgement that individuals have a choice in whether and how they undergo the process of acculturation (Berry 2005). His model represents a bi-dimensional concept of acculturation. This integrational concept is a reflection of gradual changes in academic attitudes towards bilingualism and biculturalism.

3.5.2.3 Acculturative stress

As a result of acculturation many individuals experience acculturative stress which is "a reduction in mental health and wellbeing of ethnic minorities that occurs during the process of adaptation to a new culture" (Lueck and Wilson 2010, p.48). Issues related to L2 acquisition constitute an important part of acculturative stress, not only because of the frustration of not being able to express oneself in the initial stages of L2 learning, or not being able to preserve the heritage language, but also due to differences between the emotional "load" of the native and the second language. According to Pavlenko (2006, 2009) and Wierzbicka (1994; 1997) affective repertoires in different languages are unique and differ from each other on vocal, semantic and conceptual, discursive, lexical, neurolinguistic, and social levels; and two languages never reflect the same reality, therefore one cannot be simply replaced with another. Pavlenko (2009) and Wierzbicka (1994) represent a relativist (or social constructionist) approach to the issues of connection between words, physical bodily responses and concepts. This paradigm disputes the existence of primary and universal emotions and its main assumption is that language shapes the acquisition of concepts (Pavlenko 2009). As a result "affective socialization is an intrinsic part of the language socialization process" (Pavlenko 2009, p.80). Language functions as a tool to focus a child's attention to experiences linked to a certain word and consequently interpretation of emotions depends on culture-specific categories. Pavlenko (2009) claims that for consecutive bilinguals, re-creation of emotions linked to L1 in another language is a very difficult task. She suggests that emotion words differ between particular languages therefore languages differ in the way their speakers express their emotions. In an interesting study Keysar and Costa (2014) assessed more than one thousand speakers of various languages and nationalities.

The found that when people face a moral dilemma in their native language, they react in a much more emotional way than when they listen to the same dilemma in their second language. This leads to a conclusion that a person's moral behaviour may depend not only on the contents of the message they received, but also on the form of this message. Harris (2015) suggests that affective processing of a language acquired via social interactions was stronger. Swearwords and expressions of affection used on many occasions in real life felt more emotional than those which were practised less frequently. Harris, Gleason and Aycicegi (2006) propose that expressions and terms became emotionally charged when they were acquired and used in emotional contexts. Pavlenko's (2004) explanation is that L1 acquisition is linked to socialization practices and as such accrue emotional content due to its integration with emotional memories. On the other hand, L2 learning is not a part of socialization process and consequently does not raise emotions in response to its words and expressions.

Romaine (1994) also maintains that two languages are never similar enough to be considered as reflecting the same reality. Because language plays the role of a cultural medium, each linguistic system differs from the others, just as one culture differs from another. Romaine (1994) proposes that not only does the language represent reality, but also carves up the world in different ways in different cultures and helps its speakers to understand the world. Romaine suggests that language "imposes a structure on the social world, and (...) helps us to construct a model of it" (Romaine 1994, p.25). A new situation of having to cope with a different linguistic affective system might be a source of stress and be reflected in a deterioration of psychological functioning and confusion, because some of the new cultural world might be in conflict with the one they have already internalized and got used to. This might be perceived just as an interesting experience by a non-migrant population of consecutive bilinguals as they are able to add a new social model to the one they have had, for example in a situation when they start attending an L2 educational programme. However, young migrant children have to exchange one cultural environment with another, and they may experience difficulties and stress when they

are suddenly required to carve a new model of the social world using a new language as a chisel.

Low level of L2 proficiency and acculturative stress in children

Dawson and Williams (2008) proposed that low levels of L2 proficiency are associated with the internalising and externalizing behaviour of migrant children. Internalizing behaviour was understood as actions directing maladaptive emotions toward the inner self, such as anxiety, depression, stress. Externalised behaviour was understood as actions directing negative energy and maladaptive emotions toward social environment and acting out problems, for example physical and verbal aggression, and defiance. They speculated that children whose English is not proficient might be stigmatized at school, causing them psychological stress and leading to maladaptive behaviours. They conducted a longitudinal study among a large sample of Spanish-speaking nursery children in the USA. A behaviour rating scale was completed by both teachers and parents who were asked to assess the children's reactions. Results show that children with limited English proficiency displayed more externalising behaviour than their peers speaking English as their first language. Interestingly there was also a correlation between the migrant children's place of birth and externalizing behaviour: children born in the US had higher ratings of behavioural problems. This might indicate the existence of another underlying relationship that was not measured in the study. In their study with migrants to Australia of various nationalities Guven and Islam (2013) were exploring the link between the L2 language proficiency and socio-economic outcomes and found that although English proficiency in parents was linked to higher school achievements in their children, in general it was also correlated with low levels of health and life satisfaction (for example both migrants with better English and their partners used more alcohol than migrants whose English was poor).

Low level of L1 proficiency and acculturative stress in children

Many studies show that not only L2 competence, but also L1 proficiency and use play an important role in preventing or lowering acculturative stress levels in

children. According to linguists the maintenance of the native language does not diminish the children's dominant language acquisition (Grosjean 2010; Schwartz and Shaul 2013; Tsai et al. 2012). In spite of this view, as Tsai et al. (2012) point out, many migrant parents believe that supporting native language development hampers their children's L2 acquisition. There have been cases of parents speaking to their children in L2 and teachers encouraging them to do so (Cummins 2000; Tsai et al. 2012), parents worrying about their children being stressed out by bilingualism, and teachers expressing concern about their pupils not using L2 at home (Lopez-Rodriguez 2008).

There is evidence that higher levels of ethnic and racial socialization are associated with children's increased positive psychosocial functioning in early and middle childhood (Hughes et al. 2006); children's increased self-esteem (Quintana, Chao, and Aboud 2006); higher emotional resiliency and a better ability to cope with stress (Harkness, Raeff, and Super 2000); and that L1 proficiency and use has a positive effect on developmental outcomes for children from migrant families (Bankston and Zhou 1995). Bankston and Zhou (1995) studied the academic achievement of 387 Vietnamese students attending a high school in the US. They found that all three variables in their study: academic achievement, ethnic identification and native language competence were positively correlated. This led the authors to conclude that the process of native language learning contributed to academic excellence.

Castigan and Dokis (2006) conducted a study with 91 Chinese families (parents and 12-year-old children) who migrated to Canada to examine three different aspects of adjustment: family conflict, depressive symptoms and achievement motivation. In assessing acculturation the authors differentiated between public and private domains. The public domain included functional and behavioural components of acculturation (for example language use); private domain consisted of socio-emotional and cognitive and value-related aspects of acculturation (Castigan and Dokis 2006). The acculturation differences and their direction (whether a child was more or less acculturated than their parents) were very important variables in the study since the authors maintain that migrant children tend to adapt to the host

culture faster than their parents - a challenge for the family dynamics, particularly when the two cultures are very different. As a consequence, acculturation differences between parents and children pose a potential risk to the family's integrity and may be a source of family conflicts. Moreover, they are also associated with lower social competence, lower life satisfaction, increased anxiety, and lower self-esteem (Castigan and Dokis 2006). Their study's findings showed that high levels of parental involvement in their native culture were a significant predictor of the children's positive adjustment. By contrast, the parents' level of involvement in the host culture and the children's adjustment levels were not correlated. Their study also demonstrated that Chinese children who were less affiliated with their own culture were also less well adjusted to their life in the host society. Liu et al. (2009) maintain that language acculturation is one of the most important factors in a migrant adolescent's academic and socio-emotional functioning. The results of Liu et al.'s (2009) study indicate that adolescents' positive adjustment is correlated with their L1 maintenance.

Lack of balance between L1 and L2 and acculturative stress in children

At the beginning of the twenty-first century an increasing number of studies have suggested that it is the balance between adaptation to a country of migration and the maintenance of a migrant's own culture that may lead to positive outcomes (Berry et al. 2006; Calzada, Miller, Huang, Bat-Chava, and Kingston 2009; Lueck and Wilson 2010; Ryder et al. 2000). Research shows that adolescents from migrant communities who are bicultural and bilingual tend to experience lower levels of acculturative stress, less depression, and academically achieve more than young people presenting assimilation or separation orientation (Berry 2005; Berry et al. 2006), and that maintaining an individual's own heritage cultural identity has a positive influence on family life satisfaction (Ryder et al. 2000). The findings of Lueck and Wilson (2010) suggest that native language competence and bilingual language preference decrease the likelihood of acculturative stress. Those of their study participants – Asian adult migrants - who had low levels of English or native language proficiency experienced higher acculturative stress than those who were bilingual

and spoke both their first and second language. In terms of language preference, individuals who spoke both languages equally with friends and family and used both languages in similar proportions were less likely to be subjected to acculturative stress.

This approach tries to reconcile the previous two approaches and reflects the two-dimensional model of acculturation. However, it is difficult to extract, define and separate the balance variable from all other factors. The studies indicate that balance exists if L1 and L2 levels are not only similar, but of a high standard therefore it is still possible that only one of these variables (either L1 or L2 proficiency) is the deciding factor.

Berry et al.'s (2006) research indicates that children of parents who were promoting their first culture and identity (including the language) were better adjusted. Those who used marginalization strategies (the most stressful ones) were the least well adapted and strategies typical for integration orientation were correlated with good adaptation (Berry et al. 2006). The presence of two languages and two cultures might be a factor protecting the migrant children's emotional development and health.

Berry et al. (2006)'s study refers to adolescents; the study with young children, more relevant for this research, was carried out by Calzada et al. (2009) who explored parents' cultural adaptation and socio-emotional functioning of their preschool children in a sample of 130 multicultural families (parents and children) living in the US. Calzada et al. (2009) propose the division of the adaptation process into two constructs: acculturation to mainstream culture and enculturation, which means maintenance of a culture of origin. They adopted Berry's (2005) theoretical model to analyse cultural adaptation and using the Abbreviated Multidimensional Acculturation Scale (Zea, Asner-Self, Birman, and Buki 2003), divided participating parents according to their identity categories of bicultural, assimilated, separated, and marginalized individuals. The children's socio-emotional functioning was assessed by their teachers who reported on their behaviour at school. This variable consisted of components of externalising problems (aggression), internalising

problems (experiencing depression and anxiety), and adaptive behaviour. Data analysis indicated that the parent cultural adaptation variable was significantly correlated with child behaviour at the nursery, in particular - the balance between the processes of acculturation and enculturation (maintenance of a culture of origin) was correlated with positive outcomes for children. Children who were assessed as the most likely to express internalizing problem behaviour had parents with both low US and ethnic identity (Calzada et al. 2009). In contrast, high scores of parents' ethnic identity were correlated with children's lower levels of externalizing and internalizing behaviours and higher levels of adaptive behaviour.

Chen, Hua, Zhou, Tao, Lee, and Ly (2014) also focused on the link between cultural orientations and children's psychological adjustment, taking into account the orientations of both parents and their children as well as the parent-child gap in their cultural orientations. The study included 258 Chinese, 6 to 9-year-old children of migrants to the USA. Orientations were analysed in terms of the language proficiency, media use and social relationships. The children's psychological adjustment was assessed by their parents and teachers who rated the children's social competence as well as their internalising and externalizing problems. Chen et al. (2014) concluded that children's American orientation was a predictor of their better adjustment (particularly its social competence component). An interesting finding was that the Chinese language proficiency parent-child gap was associated with children's lower level of adjustment.

The study of Tsai et al. (2012) is also particularly relevant. The authors examined the influence of parents' cultural orientations on their children's L1 and L2 proficiency. Their study participants were Chinese migrant parents and their 4 to 7-year-old children. The domains measured in the parents were: ethnic and American orientation (mainstream cultural orientation), parental cultural maintenance, and heritage language use and preference. The domains measured in the children were Chinese and English expressive and receptive language proficiency. The authors found no correlation between parental cultural orientation and their children's use of their native language. Additionally, parental promotion of ethnic cultural values

was not predictive of the children's L1 competence. However, the practice of the native language use was associated with the children's L1 proficiency without having any negative effect on their L2. These findings suggest that the specific practice of native language use plays a more important role than other elements of the parents' cultural maintenance (e.g. activities related to promoting heritage values) in preserving children's first language. Tsai et al. (2012) conclude that although parents' cultural orientation is not directly correlated with their children's L1 proficiency, it might be associated with the children's attitudes towards L1; and that even if general cultural orientations of parents do not predict children's L1 skills, they might influence their learning indirectly through parental language attitudes and the use of L1 with their children. This concept is confirmed by other authors' studies (Hakuta and D'Andrea 1992; Paradis 2009), which show that positive attitudes towards L1 are predictive of the amount of L1 input, which in turn affects the L1 proficiency in children.

3.6 Children's socio-emotional functioning

Some aspects of the children's learning ability might also be linked to their own socio-emotional functioning. Medford and McGeown (2016) indicate that hyperactivity, behavioural problems, and peer relationship problems affect children's reading skills. In their study the most significant predictor of the children's early reading development was the hyperactivity scale. Furthermore, prosocial behaviour influenced positively early reading ability. A potential reason for this could be that more prosocial children might have received more attention from their teachers as they would have been perceived as more cooperative (Medford and McGeown 2016). Links between some of these components of socio-emotional functioning are often bi-directional (Medford and McGeown 2016).

Second language acquisition in a situation of migration or the lack of balance between L1 and L2 may cause stress and influence children's adjustment and socio-emotional functioning (Chen et al. 2014, Dawson and Williams 2008, Liu et al. 2009). In the same vein, children's psychological adjustment could play a role in their L2

acquisition. Some authors maintain that social and communication skills are important factors in L2 learning, particularly when reinforced by lots of input from native speakers of the L2 (Beller 2008; Fillmore 1976; Paradis 2009; Strong 1983). A role of social competence in children's language acquisition would also be reflected in the children's assessments in the current study. Methods used to test the children's language competence in the current study have been designed for qualitative research, but the Information component of the English language test could be potentially influenced by the children's social skills. This study does not focus on particular components of children's social disposition, such as openness or talkativeness, but the children's socio-emotional functioning is an important feature, particularly the four aspects potentially influencing the children's cognitive skills (hyperactivity, behaviour, emotional problems, and peer relationships).

4. Language attrition

According to some authors (Clark 2012; Cummins 1979, Skutnabb-Kangas and Taikomaa 1976) - if children's L1 is not encouraged and supported, its development will slow down, stop and even succumb to regression. Gogolin (2002) presents a different point of view and expresses an opinion that L1 does not disappear in migrant communities. It changes and develops in a certain way but is not eliminated by L2. One of the reasons he gives for this is the phenomenon of transnational migration noted in Chapter 1 (Gogolin 2002; Ignatowicz 2012), where travelling between a home country and a host country helps keep links to both of them. Edwards (2008) suggests that when there are only a few monoglots speaking a language, the process of its decline, although imperceptible, is unavoidable. He suggests that there are some indicators of language decline such as: predominance of older speakers; confinement to rural, poor regions; small number of group members actively trying to maintain their language. However, it is possible to maintain bilingualism provided there are domains where each language can be used (Edwards 1985). In a typical migration situation these domains are usually taken over

by the language of society. For pragmatic reasons bilinguals do not use a language, if it is not required because one language is sufficient for all domains. However, more recent studies conclude that in migrant communities L1 is usually a language at risk and the focus should be on maintaining it (Duursma et al. 2013).

There are several possible explanations. Siraj-Blatchford and Clarke (2000) observe that the children's "reluctance to continue to use the home language may be affected by the attitudes shown by the community, particularly staff in the early childhood setting" (Siraj-Blatchford and Clarke 2000, p.29). They point out that children who do not see their native language as a positive may lose the ability to use it and become "receiving bilinguals" (only able to understand L1). Other authors also suggest that negative attitudes are an important factor contributing to the L1 attrition rate (Oliver and Purdie 1998; Schmid and Dusseldorp 2010). Siraj-Blatchford and Clarke (2000) maintain that sometimes there is also so much pressure from the peer-group that children refuse to speak their home language and as a result forget it completely. According to Wong-Fillmore (1991), children quickly realise that their language has lower status than the official language of education and that they need to use that one in order to be accepted by the majority group. She also suggests that the very fact of being different from other members of the community can cause children (who are often susceptible to social pressure) to conform by changing the way they speak. She concludes that although children are not consciously aware of language status, they do recognize acceptance and need to learn the dominant language in order to bridge the gap.

According to Cummins (1979) attrition of L1 may cause an undermining of children's "personal and conceptual foundation for learning" (Cummins 1979, p.18). Moreover, encouraging children's L1 leads to its improvement, at no cost to their L2 proficiency. On the other hand, while the use of L2 at home might result in deterioration of L1 skills, the improvement of L2 is likely to be unaffected, as members of children's households are non-native L2 speakers and their attempt to teach L2 might not be reinforcing correct linguistic behaviour.

Norton (2000) points out that losing one's first language might lead to communication problems between parents and children simply because parents are not able to fully express themselves in a foreign language. Wong-Fillmore (1991) also posits that the language loss consequences affect the migrant children's social, emotional, cognitive, and education development as well as the integrity of their families. She suggest that by losing L1 parents lose the means to socialize their children because they are no longer able to convey to them their beliefs, values and culture (Siraj-Blatchford and Clarke 2000; Wong-Fillmore 1991). Children may stop using L1 long before they master L2, so their ability to express themselves would be not much better than that of their monolingual parents. As a result, there would be no intimacy of shared interactions between parents and children, their emotional life and the quality of relationship between them would be hampered. Wong-Fillmore (1991) points out that migrant families are often not aware of this process until it is too late. What seem small problems with communication at the beginning eventually might turn into a breakdown of a family and alienation of children from their parents and their heritage culture (Siraj-Blatchford and Clarke 2000; Wong-Fillmore 1991).

The term "attrition" may seem too much when considering very young children's language acquisition. The languages of children who are 4-6 years old are still in the process of developing and identifying attrition at this age would be premature. However, a shift towards one or the other language is often observed in children after they enter formal education. Haman et al.'s (2017) study suggests that the gap between migrant bilingual children and their monolingual peers in terms of their grammar, vocabulary and phonological processing cannot be eliminated even with a high amount of L1 exposure. This claim is supported by the findings of Mancilla-Martinez and Vagh (2013) who conclude that the use of L1 at home does not prevent its attrition. Other authors present more optimistic evidence.

In order to reduce the loss of L1 Cummings (2001) advises to provide plenty of opportunities for children to use it within the family environment and proposes some educational programmes for teachers. A study conducted by Schwartz and Shaul (2013) suggests that formal education plays a very important role in the process of

preservation of native languages. Their study participants were Russian/Hebrew speaking children in Israel. There were significant differences in the language proficiency found over time between bilingual children who were attending bilingual educational programmes and bilingual children who were attending monolingual educational programmes. These results indicate that the educational setting is an important factor in L1 maintenance. However, the sample in this study was very small. Fishman (2013), a renowned expert on minority languages, agrees that educational programmes could contribute to L1 maintenance but nonetheless sees it as a “drop in the ocean”. Parents should not rely on their educators to teach their children minority languages (Fishman 2001). He suggests that the family environment, particularly the language use at home, the neighbourhood and the local community, as well as mass media, the higher education and governmental agencies are social forces that need to be employed in order to preserve minority languages.

5. Rationale for the thesis

The research for this thesis focuses on the social and affective factors influencing young children’s bilingual development in a situation of migration, particularly parental attitudes, the role of the family, the influence of L1 on L2, and the frequency of language input children receive. The Polish group constitutes a new phenomenon – the emergence of a transnational category of migrants, a result of globalization, in which the cultural identity aspects may be different or more complex than those examined in previous studies, and to which different acculturation patterns are likely to apply. There is little research to date that focuses on transnational migrants and so the study findings will make a novel contribution to knowledge in this area.

The aim of the thesis is to establish the rate and shape of development of L2 (English) and L1 (Polish) among the 4 to 6-year-old children of Polish migrants to the UK. The thesis also examines the relationship between parents’ cultural orientations and language attitudes and their children’s L2 (English) acquisition/L1 (Polish) maintenance. It has been demonstrated that parents’ L1 and L2 proficiency and use

and even the type of their communication with children were factors predictive of their children's native language competence (Arriagada 2005); parental attitudes and language ideology translated into family policy factors contributed to the children's L1 proficiency (Schwartz 2008); and that parents' heritage culture attachment played an important role in their children's L1 skills (Phinney et al. 2001, Zhang and Slaughter-Dafoe 2009). It is important to examine learning in process with a longitudinal design, which is the intention of this research and has rarely been done.

Additionally, this research explores the issue of whether L2 acquisition/L1 maintenance influences the migrant children's emotional functioning. There is evidence of a link between children's behavioural difficulties and their L2 proficiency (Dawson and Williams 2008); between parents' heritage cultural involvement and children's positive adjustment (Castigan and Dokis 2006); and between adolescents' adjustment and their L1 maintenance (Liu et al. 2009). Some studies also indicate that the relationship between L1 and L2 proficiency constitutes an important factor affecting acculturative stress (Berry et al. 2006; Lueck and Wilson 2010). In some studies, ethnic cultural orientation and balance between acculturation and enculturation was correlated with positive outcomes in children (Calzada et al. 2009), but in others the predictor of children's better adjustment was host country cultural orientation (Chen et al. 2014). Given these conflicting results the question of how the bilingual children's language competence influences their psycho-social functioning has not been answered yet.

5.1 Research questions

The research questions:

- 1) What is the rate and direction of development of L1 (Polish) and L2 (English) among the 4 to 6 year-old-children of Polish migrants to Scotland?
- 2) In 4 to 6 year-old-children of Polish migrants to Scotland is acquisition of L2 and maintenance of L1 associated with:
 - a) parents' cultural orientation
 - b) parental language attitudes

c) socio-demographic factors

3) What is the link between L2/L1 acquisition/maintenance and the socio-emotional functioning of a child?

4) What is the role of language input in the language acquisition of the 4 to 6 year-old-children of Polish migrants to Scotland?

5.2 The model of factors

The main factors identified as potential contributors in answering the above research questions are presented in Figure 2.2. The model below has been created for the purposes of this study, applies to both L1 and L2, and is illustrative of some of the different factors known or thought to play a part in the children's bilingual language development.

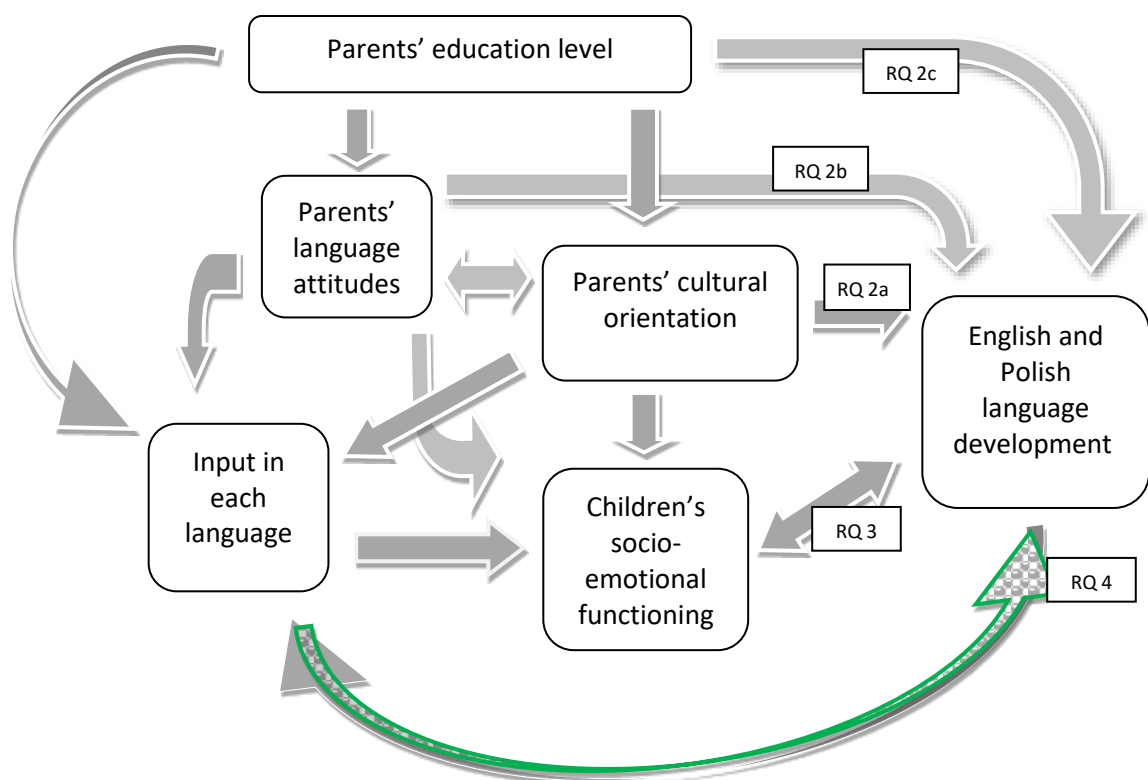


Figure 2.2 Main factors examined during the study (the green dotted arrow indicates the link well established in the literature; symbols RQ indicate research questions). The shape of arrows does not reflect the importance of factors.

The thesis is not intended to examine all factors contributing to L1 and L2 development, the model reflects the study focus. The arrows in the model indicate potential relationships and the analyses to be conducted in the study.

Parents' cultural orientations, language attitudes and education level, linguistic input and children's socio-emotional functioning are the factors included in the model. Child's demographics do not feature in the research questions, but they have been included in the study as some differences in children's language development might be attributable to the children's age and gender. The child participants' age was taken into account as it focused on children of a specific age (4-6 years).

Some factors are more salient than others and their influence may contribute more to the children's L1 and L2 level of development. For instance, children's age might be a factor more conducive to L1 and L2 competence than parents' education level, especially in L2 development.

Some of the factors may influence other elements in a more direct way than others. For example, the relationship between the input in each language and language development might be more direct than the relationship between the parents' language attitudes and their children's linguistic development. Some relationships are one-directional, and some are bi-directional. The input influences the linguistic competence, but a child's better language skills may also influence the amount of input in a particular language due to the fact that she or he may be more proactive in terms of communicating with other people. According to some authors (Bankston and Zhou 1995; Dawson and Williams 2008), language development also has an impact on a child's social and emotional functioning therefore this relationship was also treated as bi-directional.

All the presented socio-emotional factors affecting the development of bilingualism in Polish migrant children will be examined in the next chapters.

5.3 Study design

A longitudinal study of the same group of children was chosen as the best way to answer the research questions regarding development as this method would allow

to determine in the same children a dynamic pattern, such as a difference in the level of a child's first and second language or their socio-emotional functioning across two different points in time (Time 1 and Time 2). Rajulton (2001) suggests that the key point of longitudinal studies is the span of observation, i.e. the time between the initial and final measurements. According to the author the decision regarding the span of observations should be dictated by the factor that is investigated and on the rate of change of this factor. Lynn (2009) identifies several advantages of carrying out longitudinal testing. The most important from the point of view of data analysis is capturing the change to a process or the nature of a process. Another is that there is no need to rely on the respondents' memory – they do not need to recall information from the past, because they are only asked questions regarding their current situation. Finally conducting a longitudinal study might be more cost-efficient, more practical and have more advantages in terms of logistics (Lynn 2009).

6. Conclusion

Chapter 2 presented some theoretical background related to this thesis, outlined issues regarding L1 and L2 development in terms of phonology, grammar, lexicon and pragmatics. It also described selected factors affecting L2 learning. Then it focused on factors particularly salient to this study: affective variables associated with language proficiency and introduced the constructs of acculturation and acculturative stress. Finally, the rationale and the research questions were presented.

The next, "Methodology" Chapter 3 sets out the main reasons for the choice of the research design in this study, the participants sample, and the recruitment process. It details the procedure and the measures used in order to assess the children and their parents. It describes the pilot study and outlines the ethical issues for the research.

CHAPTER 3

METHODOLOGY

1. Introduction

The previous chapter presented the theoretical basis of the study. The aim of this chapter is to describe the methodology and methods of the project. It gives information on the research design, participants and methods used in the study. The chapter describes the process of recruitment, the characteristics of the initial and the final sample, the measures used for the assessment of children's language competence (L1 and L2) and those used to assess their parents' attitude to their two cultures. This part of the thesis also contains a short description of the pilot study and a section regarding the ethical issues.

2. Research design

The research design in this thesis takes the form of a longitudinal, quantitative study of migrant Polish children and their parents. To answer the research questions [see Section 5.1 of Chapter 2], 74 participating families were recruited, made up of children aged 4 to 6 years who were just starting primary school, and their parents. The data collection period lasted from September 2014 until June 2016. During the first stage of data collection (between September 2014 and January 2015) the children's L1 and L2 proficiency were assessed. During the second part of the study (from April to June 2016) the children's language proficiency (L1 and L2) was assessed for the second time. During this part of the study parents of the children who had been tested completed questionnaires. The parental attitudes were measures only at one point of time because it was assumed that they would not change dramatically in a year. This element of the data collection did not take place at an earlier stage of the study in order to avoid the risk of parents changing their behaviour as a result of completing the questionnaires. For the same reason the parents' attitudes were

measured shortly before the second rounds of language testing. The children's attitudes were not measured because the study's main interest was the connection between parents' attitudes and their children's language learning. Another reason was linked to issues regarding research reliability and validity [see Section 3.5 of Chapter 2].

2.1 The choice of a longitudinal study design

The child participants were assessed twice in order to establish their progress in language acquisition and the potential change in their socio-emotional functioning. Their language scores at T1 were deducted from their scores at T2 in order to indicate progression and their socio-emotional functioning scores at T2 were compared to their scores at T1. Both these variables involve some sort of development or change and could only be assessed with the use of longitudinal study. In regard to the rate of change, the initial research design of a year gap between the two measurements was changed to a year and a half gap. Although a year in the life of young children is a long time, extension of the amount of time between the two tests would make their language development even more visible. It was expected that any change in their socio-emotional scores would also be enhanced by the longer period of time that would pass between the first and second assessment.

A cross-sectional design was considered for this study, but it could only capture the transition and change if some retrospective information was obtained; it would entail many limitations, such as a difficulty in making cause and effect relationship and presence of factors influencing participants' results only at the particular time-frame the study is conducted. Rajulton (2001) asserts that "A longitudinal study is still essential if we wish to determine the influence of conditions, acting over a long period of time, on the same individuals" (Rajulton 2001, p.177-178). He also emphasizes that only the use of longitudinal research allows to examine both stability and change. Moreover, longitudinal studies providing easier comparisons have been used by researchers investigating the life of migrants in the past in Europe (Constant and Massey 2003; Dribe and Lundh 2011), America (Borjas 1989; Goldenberg,

Gallimore, Reese and Gamier 2001), and Australia (Alati, Najman, Shuttlewood, Williams and Bor 2003).

2.2 The choice of quantitative methods

In regard to the research methods, for the purpose of the study quantitative methods were chosen, although in recent research on Polish migrants, the methods used were mainly qualitative ones, structuralized only to a small extent. Lopez-Rodriguez et al. (2008) used interviews with teachers and school personnel to find out about the general situation of Polish migrants in British schools. In this study, a series of semi-structured interviews with parents of children attending schools was also conducted, during which they discussed the parents' views on their children's progress and their perception of the school. A similar approach was adopted by Moskal (2010), who based her research on interviews with several parents, teachers and children. However, in studies more resembling the one that is the subject of this thesis, multivariate approaches and quantitative measures of the participants' attitudes have been employed. A research study on second generation Russian-Jewish migrants in Israel (Schwartz 2008) was conducted with the use of quantitative methods. In her study Schwartz used questionnaires for parents and children. Both of them were developed for the purpose of her study and collected information on demographics, language practice, language management, and language ideology. Additionally, the parents were asked about their attitude towards bilingualism and the children were assessed in terms of their lexical knowledge. Finally, a series of correlation analyses and multiple regression analyses were conducted when all attitudes along with language practices and language management were used as explanatory variables, and the lexical knowledge was used as a dependent variable. Additionally, in a multivariate study of Schmid and Dusseldorp (2010) on language attrition among German (L1) speaking migrants in the Dutch and English (L2) speaking environments all non-linguistic (emotional and attitudinal) factors were analysed with the use of quantitative methods. The researchers used the AMTB Attitude and Motivation Test Battery (Gardner 1985), chose four subscales for analysis (attitudes towards speakers of the L1 in the L2 country, attitudes towards speakers of the L2,

attitudes towards speakers of the L1 in the country of origin, and attitudes towards foreign language learning in general), and carried out regression analysis.

In the current study, qualitative methods could be used for the adult respondents, if the research was interested in their opinions. However, since the main interest of the study was the parents' attitudes, there was a concern that the use of qualitative methods, such as an interview or a focus group could caused problems with participants being influenced by either the interviewer or other respondents while answering questions. It was very important that the parents' questionnaires were completed in the most open and honest way. Using qualitative methods could involve the researcher being more subjective and even unknowingly suggesting to the respondent answers that were expected from them (Brzeziński 1997; Rosenthal 1993).

Research methods literature notes that where there is some sort of personal interaction between a researcher and their study participants, using quantitative methods does not guarantee that the data collection would be free from the researcher's bias. Rosenthal (1991) emphasizes that the researcher's expectations are extremely difficult to avoid regardless of the methods used. The researcher might, as well as in a qualitative research, influence the data collected when quantitative methods are used, particularly in studies when there is a degree of discretion allowed during the scoring process. There is always a risk that an interviewer's perception of a particular person whose responses seemed to the interviewer either "excellent" or "very poor" will affect the further stages of the research.

However, the Rosenthal effect can be reduced as much as possible by using straightforward and well-controlled procedures. There are various ways of dealing with these potential problems. One of them is allocating numbers to participants and another separating the role of an interviewer from the role of the person who is in charge of coding the results. Qualitative methods are not always more objective, but with children being subjects in a study, there is a greater risk for personal preference and allegiance on the side of the researcher involved when he or she is using

qualitative methods as they leave more to discretion of not only the assessor, but also the interviewer.

The last research question regards a possible link between languages used and children's socio-emotional functioning and a decision was made that using another quantitative measure would answer it most effectively. Assessing socio-emotional functioning of children by parents and/or teachers without the use of a validated measure would be problematic, because this variable is very subjective and for each person something else might constitute "the norm".

The decision to use quantitative methods was made for several reasons: the main one was the need to use recognized and validated measures to assess the children's language development. Secondly, the sample had to be relatively large and a quantitative study was the most efficient and convenient method that could be used to collect data from a large number of families. Finally, an additional advantage was to keep the study anonymous and in this way, also lessen any influence of the interviewer on the participants of the study. According to Brzeziński (1997) quantitative methods are less susceptible to unconscious bias particularly when the interviewer is an "insider researcher".

L1 develops in a different way from L2 and there is a considerable difference between a child's first language acquisition and their second language acquisition; they are frequently treated as separate issues. It is important to point out that L2 acquisition and L1 maintenance in the thesis are viewed not as some sort of continuum or single bi-dimensional variable, but rather as two complementary aspects of the learning system, based on the same category of skills. The relationship between L1 and L2 is a dynamic process and needs to be taken into account while considering a migrant child's circumstances. This approach is based on two perspectives: the affective relativist approach (Pavlenko 2006, 2009; Wierzbicka 1994; Wierzbicka 1997), and the cognitive linguistic interdependence theory (Cummins 1979, 1991, 2001). The L1 development and the L2 development are two different variables and the relationship between them is not considered to be reciprocal. In other words, these two variables are not part of the same bi-

dimensional unity, although they might influence each other in various ways [see Section 3.2 of Chapter 2]. The difference between L1 acquisition and L2 acquisition was reflected during this research by the fact that the development of the two languages in question was assessed with the use of different methods, and not by the same test translated into another language.

2.3 The choice of a survey design – parents' questionnaires

The survey design was chosen as the most suitable for the purposes of this part of the study, as it also helps reduce potential problems regarding the researcher's expectations (Brzeziński 1997). This design also has disadvantages, for example the need to rely on the respondents to send the questionnaires back. Another limitation of this method is the lack of opportunity to clarify questions that some participants might have found unclear. In order to minimise this risk the parent questionnaires were constructed in such a way that they would cover all possible options, but the possibility that some questions might have not been understood correctly could not be completely eliminated.

2.4 Research questions

The questions for this thesis are the following:

- 1) What is the rate and direction of development of L2 (English) and L1 (Polish) among the 4 to 6 year-old-children of Polish migrants to Scotland?
- 2) In 4 to 6 year-old-children of Polish migrants to Scotland is acquisition of L2 and maintenance of L1 associated with:
 - a) parents' cultural orientation
 - b) parental language attitudes
 - c) socio-demographic factors
- 3) What is the link between L2/L1 acquisition/maintenance and the socio-emotional functioning of a child?
- 4) What is the role of language input in the language acquisition of the 4 to 6 year-old-children of Polish migrants to Scotland?

2.5 Variables

In order to answer the research questions several factors have been identified as playing a role in the process of L1 maintenance and L2 acquisition [see Chapter 2, Section 5.2]. They served to create the main variables in this study [see Section 4 of this chapter; Tables 3.6 and 3.7].

In order to answer Research Question (1) it was necessary to test the children's level of competence in both their first and their second language. The parents' cultural orientations, parental language attitudes, and selected socio-demographic factors have been identified as the best variables associated with Research Question (2). In order to answer Research Question (3) the children's socio-emotional functioning was assessed and analysed. The children's previous L2 exposure, the extra input in L1, and their current use of both languages were variables assessed to answer Research Question (4).

3. Participants

3.1 Families

The study participants were Polish families who had settled in Scotland. It was decided not to include samples of children speaking other native languages and learning English as L2 because this would involve employing native speakers of various languages. Also, children with English as L2 who were not from migrant families were not included in the current study because their general bilingual context would differ too much from what the current study was set to explore and consequently exceed its scope. Moreover, recruitment of families from both above mentioned groups could present additional difficulties.

In order to minimize the effect of the sample attrition (Robson 1993), which is very likely in case of longitudinal design (Rajulton 2001), it was necessary to recruit a sufficient number of participants to obtain a representative sample. In the study described in this thesis a loss of respondents may have constituted a potential

problem, since it was possible that the respondents might not have been in Scotland at the time of the second survey. They may have also found themselves in a situation where a return to Poland was required (due to family or financial reasons). Therefore, the initial sample of respondents had to be large enough to allow for some of them leaving the project. It is difficult to establish what a typical response rate is as it seems to depend on the type of the study and the country in which the study is conducted. However, according to a study conducted by Baruch (1999) the average response rate for studies in behavioural sciences was 55.6% (SD = 19.7); in another study (Baruch and Brooks 2008) it was 52.7% (SD = 20.7). The current study also had to be large in order to embrace potential socioeconomic differences that could occur in the sample. The aim of the study was to assess at least 60 children. Additionally, this size of sample was necessary for the statistical analysis planned.

It was decided to explore the attitudes of the main carer only as even if they cannot be considered representative of the whole family, they were the adults a child spent the most time with and whose influence on them was the most central.

3.2 Children

The child age range of 4 to 6 years was chosen for several reasons. The main reason is that this is the age when children in Scotland start formal schooling and are first exposed to an English-only social environment. Until this age Polish children living in Scotland tend to spend most of their time with their families, which are often ethnically homogeneous and have limited contact with English. For a child the transition into primary school is an introduction to a more diverse and more challenging social system (Lee and Burkham 2002); a very significant period in a child's life, more so than later school years (Benner and Crosnoe 2011); and a move to an exclusively English language world. Some of the Polish children starting P1 would also start attending the Polish language weekend school in Scotland at around this stage. Formal education in Poland starts when a child is six years old and there has been a natural tendency among Polish parents to send their children to a weekly

Polish language class when they reach this age. The final sample included a sub-sample of children who were attending these classes.

Any siblings of the child participants were also taken into consideration and information regarding other family members in the home was collected [see Section 4.2.3 of this chapter].

3.3 Recruitment

The process of gaining access to participants, particularly children can be challenging, as it is necessary to gain agreement at a number of levels: local councils, school staff, parents and finally children. Additionally, if the participants of a study are children, they are potentially vulnerable because they may not fully understand what they are agreeing to or may feel pushed into doing so. The researcher's impression was that in the eyes of "gatekeepers" she was in many ways an "outsider" – someone who was not a teacher and who did not work in any school. The researcher's position was different than most other adults working at school also due to the fact that she could speak Polish to the children. Some pupils were surprised and seemed to be more relaxed (and sometimes almost relieved), when they were able to speak their native language which mitigated the effect of the researcher being an adult with a certain status and amount of control in the assessment situation. However, the "outsider" status in some cases was an obstacle while dealing with authorities. The biggest factor having an impact on ease of access was the head teachers and teachers' perception of the study. The authorities and decision makers came from a position of someone who is supposed to protect and safeguard the children who are vulnerable and potentially easily manipulated (Elsley and King 2009). The fact that the study was carried out with a particular group – ethnic minority children - added to the selectivity factor. Not only the participants were children – they were also children that were different from the majority, due to their potentially impaired ability to communicate in English.

In order to minimize the impact of these hurdles, as many schools as possible were contacted at the beginning of the study. All of them were given full explanation of the purpose and methodology of the project. Once the schools agreed to participate

in the research, the children's parents were approached and very few refused to give their consent.

The recruitment process started in April 2014 and finished in November 2014. The children from participating families attended primary schools, therefore access to these institutions was gained mainly through mainstream schools across Scotland. The choice of schools was influenced by the researcher's professional experience that most Polish migrant parents send their children to state primary schools. Moreover, private schools are not very popular in the Polish culture, associated mainly with foreign language education or religious studies and often assumed to have lower standards than state schools. At the beginning of this process eight councils were approached: Edinburgh, Glasgow, Dundee City Councils, Midlothian, West Lothian, East Lothian, Perth and Kinross Council, and Scottish Borders Council, to ask their permission for the study to be carried out. Once consent was granted, schools were contacted. These comprised eight Polish schools and 124 Scottish mainstream primary schools (in Edinburgh, Glasgow, Dundee, Midlothian, West Lothian, Perth and Kinross, and Scottish Borders) [Table 3.1]. Some were contacted directly and some through Edinburgh City Council (Interpretation and Translation Services and English as Additional Language Services). Seventy-seven mainstream schools and six Polish schools responded to the initial letter [Appendix 3] sent which outlined the study; subsequently these 83 institutions were sent more detailed information regarding the project including the consent forms that needed to be distributed among the Polish parents and carers. All participating schools received two versions of the consent form - one in Polish and one in English [Appendix 1 and Appendix 2].

After further correspondence, 25 of the mainstream schools declined to participate in the study for various reasons: the members of staff giving out information initially did not notice that the participants had to be both Polish and P1 pupils and there were no such children in their school (12 schools); they were already involved in another research project (three schools); they explained that their situation had changed since the initial agreement (two schools); they were too busy (two schools); they changed their mind (one school). Four further schools declined to

take part in the study after obtaining further information without giving the reason and one wanted to carry out an extra lengthy consent procedure in addition to the permission that was obtained from the council which was not possible within the study timescale.

Twelve mainstream schools did not indicate whether they wanted to be included in the study or not and eventually they were removed from the list of participating institutions.

Ultimately, 40 mainstream schools consented to the study and distributed 271 consent forms to the Polish parents. However, 11 of these schools eventually did not participate in the project. The main reason for this was the very poor response from the Polish parents who did not return any consent forms. One school reported a positive response from the parents but consulted a third party who criticized the project and advised the school's head teacher not to participate in it. Finally, a further three schools did not take part in the study because the consent forms from the parents arrived when the first stage of the study was already completed.

Five other British schools were not visited: three - because their Polish P1 children were also recruited via different routes and it was more convenient to see them in their homes; and two - because it was extremely difficult to agree suitable time for a visit. Despite this the consent forms were passed to the researcher and the children have been assessed at home. However, all these pupils were assessed in schools during the second part of the project, so technically speaking these schools did participate in the study.

Table 3.1 *Summary of the numbers and percentages of mainstream and Polish language schools involved in each stage of the recruitment process*

Schools contacted		Schools that responded		Schools that consented		Participating schools	
MS	POL	MS	POL	MS	POL	MS	POL
124	8	77	6	40	6	29	4
100%	100%	62.09%	75%	32.25%	75%	23.38%	50%

MS – mainstream; POL – Polish

Two out of six Polish schools that consented to taking part in the project also had to be eventually excluded because of lack of response from parents. The remaining four were included in the study.

In total there were 29 mainstream British primary schools and four Polish schools that participated in the study [Table 3.1]. This was 23.38% (in case of British schools) and 50% (in case of Polish schools) of institutions that were originally approached.

The Scottish schools gave a geographical cross-section of central Scotland and were schools from Edinburgh, West Lothian, Perth and Kinross, Scottish Borders, Glasgow, and Midlothian. The Polish schools were located in Edinburgh, West Lothian, Scottish Borders, North Lanarkshire, and the fourth one had branches in Hawick and Berwick upon Tweed.

Recruitment also included 17 families who were not contacted through children's schools, but in different ways: six of them through advertising (displaying posters [Appendix 4] in Polish shops, Catholic churches and clubs, and the website of the Polish community in Scotland – "*Emito*"), two through personal contact, nine through word of mouth (snowballing procedure), and two families were approached directly at the Science Festival in Midlothian. The assessments of the children from these families were conducted in their homes in Edinburgh, Midlothian and East Lothian.

Participating parents were required to provide informed written consent, and asked to provide their names, their children's names, their residence addresses, phone numbers or email addresses. The invitation letters stated that children, after completion of assessments at T1, would receive a small gift as a "thank you" for their time and effort and parents who completed adult questionnaires would receive a voucher.

3.4 Sample at Time 1 (T1)

Out of 271 consent forms distributed at mainstream primary schools and Polish language schools 70 were returned, therefore together with the 17 families approached privately - there were 87 consent forms collected. However, two children were excluded from the study as it was discovered that they were in fact multilingual, four children were already recruited through other channels, four parents' consents

arrived after the first part of the project had been completed, two children from Polish schools could not be seen because the school had to close for renovation works, and one child could not be seen on the day of testing because he was not well.

Table 3.2 *Number of children according to their classroom and age at T1*

PRIMARY 1: 70 children (94.59%)		PRIMARY 2: 4 children (5.40%)	All children
4-year-olds	5-year-olds	6-year-olds	4-6-year-olds
17	53	4	74
22.97%	71.62%	5.41%	100%

The final sample at T1 consisted of 74 Polish families and included three bilingual children for whom only one parent was Polish and four P2 children, who were assessed as a result of a school's administrative error. Some of the P2 children were only slightly older than the other participants but there was a difference between them and P1 children in the length of time spent using English language and intensity of the contact with English language: an important factor in the project. The three children whose fathers were not Polish used only two languages (Polish and English). All these children's data have been included in the analysis. However, they are treated as a separate group.

Table 3.3 *Number of children who could speak no Polish/English and those speaking some Polish/English at T1*

Children's language levels	Number	Percent
Children who could not speak any Polish	1	1.4%
Children who could speak some Polish	73	98.6%
Total sample	74	100%
Children who could not speak any English	9	12.2%
Children who could speak some English	65	87.8%
Total sample	74	100%

The information about participating children's date of birth, which allowed the inclusion of data about their exact age (years and months), was part of the consent forms completed by parents of all 69 children. It was also included in the demographic data questionnaire which was completed by 53 of the 69 families participating. The final sample comprised 17 children who were 4 years old, 53

children who were 5 years old, and four children who were 6 years old [Table 3.2]. There were 37 girls and 32 boys. There was only one child who during the assessment, did not speak any Polish and nine children who could not speak any English, out of whom only one did not understand the questions of the English test [Table 3.3].

3.5 Sample at Time 2 (T2)

Between Time 1 and Time 2 five families (with three boys and two girls) had to be removed from the participants list. Two families moved to England. The third child moved schools and there was no precise information about her new school. Another child refused to be seen during a home visit. A visit in the fifth child's house was arranged but the family was not in and arranging another date proved impossible.

Table 3.4 *Number of children according to their age at T2*

6-year-olds	7-year-olds *	All children
48	21	69
69.5%	30.5%	100%

* including 3 children who were in P3 at T2

Ultimately, for the second stage (Time 2) of the language testing 69 children were assessed (37 girls and 32 boys). There were 48 children who were 6 years old and 21 children who were 7 years old [Table 3.4].

4. Measures

4.1 Children's measures

Finding suitable measures to assess the child participants of the study on language was a difficult task. Bialystok (2001) emphasizes that "performance" is systematically different from "competence" and she points out that one of the main methodological problems a researcher faces is that "the prescriptive rules provide an incomplete and somewhat inaccurate account of what native speakers really do with language." (Bialystok 2001, p.13). This is particularly relevant when the research involves children.

According to Burt and Dulay (1978) the main domains regarding L2 proficiency that need to be assessed are: vocabulary, pronunciation, syntax and functional use. The comprehension (listening) and production (speaking) task are the most commonly used tasks assessing the oral language proficiency (Burt and Dulay 1978). According to the authors only natural communication tasks (both structured and non-structured) permit a teacher to assess the linguistic development and competence of a student, while tasks based on linguistic manipulation really measure the level of meta-linguistic awareness of a student. Burt and Dulay (1978) maintain that although the tasks based on natural communication reflect a linguistic skill in the most precise manner, there is a disadvantage, namely some grammatical structures are very difficult to elicit (for example some less common tenses). An important point made by Burt and Dulay (1978) is that language tests must not be a simple translation of each other due to the fact that there are some structures in one language that do not exist in others (for example the auxiliary “do” in English or gender differentiation in Spanish, French, Polish or Russian). Another important issue mentioned by Burt and Dulay (1978) is that the content of a language assessment test must take into consideration the students’ culture, experience and values. Moreover, in order to assess a student’s language competence properly an assessor needs to take into consideration language exposure variables i.e. the number of years the student lived in the host country, language dominance, primary language and the home language.

The two aspects of language that were tested in this research were lexicon and syntax. Measures based on these two grammar elements were chosen because these were the elements that could be measured with the use of the most reliable methods. However, the element of pragmatics does appear in the study as the information component of the Renfrew test which reflects children’s pragmatic approach to a task of conveying a message. The children who obtained high scores on this scale displayed creativity and resourcefulness in terms of managing without the knowledge of the rules of syntax (the grammar component of the test).

For linguistic reasons (Burt and Dulay 1978) and the reasons presented below [See: Chapter 3; Section 4.1.2], to address the question of the children's bilingual development two separate tests were identified - one for English and one for Polish.

4.1.1 English language measure

To assess the children's level of English the Renfrew Action Picture Test was chosen, because it can be used to assess both receptive and productive language competence in children (Renfrew 1997) and allows to assess the two aspects of language - lexicon and syntax [Appendix 12]. What was also taken into consideration when choosing the Renfrew Action Picture Test and rejecting tests such as the Wechsler Intelligence Scale for Children was that the children who were to be tested were not native English speakers so their expressive proficiency in this language would be limited. Therefore, the English test could not be based on the generation of speech only (productive language competence). There was also a need to be able to differentiate more subtly between children who had some L2 competence and those who did not speak English at all. Finally, the aim was to find a test which would limit the impact of a child's personality on their scores.

The Renfrew test (Renfrew 1997) was designed to assess children who are over three years old and there is no upper age limit for its use, but it has only been standardised for children between 3 and 8 years of age. It tests the children's English language receptive and productive competence in terms of the vocabulary (nouns, verbs, prepositions, conjunctions) and grammatical structures (past, future and present tenses including present perfect forms; irregular forms of plural and past tenses; simple and complex sentence construction including subordinate conjunctions; and passive voice). It consists of two sub-scales: Grammar and Information. In the case of the grammar element, scores are allocated according only to correctness of the participants' utterances. The information score is based on the volume of information conveyed in a child's statements and it is influenced by the amount of speech produced, but it also constitutes the reflection of the amount of vocabulary a child has in English, therefore their language competence.

The test consists of 10 pictures showing various everyday scenes – some more complex than others. The children are shown only one card at the time and asked a different question in the case of each picture. The questions are as follows: “1. What is the girl doing? 2. What is the mother going to do? 3. What HAS been done to the dog? 4. Tell me all about what the man is doing? 5. What has the cat just done? 6. What has happened to the girl? 7. What has the BIG girl done? 8. Tell me what the man is doing. 9. What is the boy doing? 10. Now look at this picture. Take your time! Tell me what’s happening.”. The children’s responses to the questions are used in scoring in both categories: Information (verbal formulation) and Grammar (function words and word endings) i.e. the scores received for describing each of the pictures were allocated depending on whether a child was able to express themselves and whether they were able to do it in a grammatically correct manner. If a child uses a word that is not grammatically correct, but conveys some sort of a message, such as “catched” (instead of “caught”, their answer is scored as correct for Information, but as incorrect for Grammar. The word “eaten” (in the case of the card number five) is an example of a response that is correct in terms of the grammar but will result in zero points for information because “eating” is actually not something that can be seen in the picture.

The minimum number of points that can be allocated for a single answer in the Information scale is 2 and the maximum number of points is 7. In the Grammar scale the minimum number of points is also 2, but the maximum number is 8. The highest score a participant can receive on the Information scale is 40 and the highest score for their grammar is 36.

A number of tests were considered before the most suitable tasks were identified. Out of a wide range of measures used to assess the children’s language skills in studies similar to this one, the most popular language competence test is the Peabody Picture Vocabulary Test (Dunn and Dunn 1997), used in many studies (Diaz and Hakuta 1985; Pearl and Lambert 1962; Tsai 2012). The British version of this test is the British Picture Vocabulary Test (Dunn et al. 1997), which has multi-lingual norms, and so this was considered for the study. Here children are presented with a

word and four different pictures and asked to select the picture that corresponds with the word's meaning in the best way; the complexity of presented words is increasing - each one is more difficult than the previous one. The number of words correctly identified by the child is used as a measure of their competence. However, this test measures only one aspect of children's language competence – their receptive language proficiency - therefore it was rejected.

The Wechsler Intelligence Scale for Children was considered, as it was also used in previous studies on language acquisition (Snow et al. 1991). This method focuses on syntax and functional use of the language as participating children are asked to give definitions of ten nouns as part of the verbal assessment and their language proficiency is assessed using scales of formal definitional quality, formal definitional supplement, informal definitional quality, communicative adequacy and conversational skills. This method focuses on syntax and functional use of the language. It was rejected on the basis that speech generation on this level would be too challenging for this particular group of children.

Another test that could have been used was the New Reynell Developmental Language Scales test (NRDLS), which assesses speech comprehension (eight scales) and production (nine scales). However eventually it was rejected, as it takes between 35 and 60 minutes to use and there are many more aspects of language tested in the NRDLS than in the Polish test.

4.1.2 Polish language measure

In regard to the children's Polish language competence, the choice was much more limited and they were tested with the use of the Dictionary Test for Children (pol. *"Test Słownikowy dla Dzieci"* TSD) (Koć-Januchta 2012) [Appendix 9 and 10]. There was a need to find the closest possible match and it was very challenging to identify tests in English and Polish that would be comparable. The TSD test is a relatively new tool and was created, because there was a need for a measure able to assess language ability of children aged 4 to 7. It consists of four subtests (two measuring receptive and two measuring productive language ability). Consequently, there is one overall score and two component scores, one for each of these two particular aspects

of the language proficiency: productive (or active) and receptive (or passive) language competence. All of these scores were calculated as “unstandardised” and “standardised”.

The *first subtest* is based on recognition of categories of words and consists of 6 sets of 6 questions. A child is required to decide if a word presented to him or her represents an object from a certain thematic category, for example state whether a “groundhog” is or is not an animal. There are six categories of words: Clothing; Human body; Country; Nature; People; and Feelings. Children are given 1 point for each correct answer and 0 points for incorrect answers, lack of answer, or answering “I don’t know”. The best possible score in this subtest is 36 points. During the testing the instruction was given to the child at the beginning of each set, with some example words for practice. Then the researcher read an example word and asked a question in regard to this particular word until it was certain that the child understood the task. The question was asked after presentation of each word.

The *second subtest* involves the child naming objects presented to them on 26 pictures. The following factors do not affect the assessment of the answer: using a particular case of a noun; using the plural or singular form of a noun; using diminutives; placing the nouns among other words (for example: “a fireman and water”); preceding the noun with such words as: “I guess” or “I think”; adding an adjective to the noun (for example: “tooth fairy”); pronunciation problems caused by the young age of the child. On the other hand, the assessment is affected by the following factors: dialect variations; describing only a part of the picture (for example: “peacock’s eye” instead of “a peacock”). Such answers result in the allocation of zero points. The maximum number of points for this subtest is 26. During this task the researcher explained what she was going to do, then showed the first picture (all the other cards with pictures were turned around so that the child could not see them) and asked: “What’s on this picture?”. The researcher repeated this after showing each picture, until the child understood what was required of them. The child’s reply was written down word for word. If the child spontaneously corrected him or herself - this was acknowledged as their final answer. If a child did not give the name of an

object on a picture but described it instead - the researcher asked: "And what do we call (the child's description)?" The children were given 1 point or 0 points depending on their answers.

The *third subtest* uses recognition of synonyms and consists of two examples and 15 tasks. The maximum number of points that can be received for this subtest is 15. The instruction given by the researcher to the child was: "I'll tell you one word and then three other words. Listen carefully and tell me which of the three words means almost the same, as the first word, for example: 'Does WANDER mean almost the same as TO WORK, TO WALK or TO FISH?'" If a child did not answer correctly, the researcher gave the right answer and explained it: "It is the word 'to walk', because 'to walk' means almost the same as: 'to wander'". Then the researcher gave another example: "Does BEAUTIFUL mean almost the same as PRETTY, DUTIFUL or CLEVER?" and followed the same procedure as in the first example. After that the child was asked the actual test questions and the researcher started with the words: "Tell me whether ... means almost the same as ... ?". If a child changed their answer, the researcher marked their final reply. If a child did not reply for around 10 seconds, the researcher repeated the task. Children were given one point for each correct answer and 0 points for incorrect answers, lack of answer or answering: "I don't know".

In the *fourth subtest* of the measure a child is supposed to complete 13 sentences in a story with words that fit into the narrative in the most logical way and they are required to use them in the correct grammatical form. Thirteen is a maximum score in this subtest. Before starting this task the researcher stated: "In a minute I will read a story to you. In this story, there are words or parts of words missing – at this point I will pause reading. Listen carefully and say out loud the missing words. Let's start". If the child did not find the word spontaneously, the researcher asked a direct question regarding the word, for example: "Where did they go with towels and bathing costumes?". If there was still no answer - the researcher read out the whole sentence filling in the gaps with words and moved on to the next sentence. In two cases (missing word number three and missing word number 12) - if a child did not find the right word, describing it instead, the researcher, according to the test guide,

was allowed to ask a further question and say: “And what do we call (the child’s description)?” similarly to subtest two.

The highest standardised score for each of the four sub-tests is 10, therefore the maximum amount of points that can be allocated to a child is 40 (20 for their receptive language skills and 20 for their productive language skills).

It has to be noted that the Polish test is not culturally universal but reflects the Polish culture. The police officer in the test picture wears a uniform of a Polish police officer, so he does not look like police officers the study participants could have encountered in Scotland. One could also question how likely it is that a Polish child not living in Poland would be able to recognize a nun in a picture. It is also unlikely that a Polish child living in Scotland has had an opportunity to see a beehive. However, learning the Polish culture and participating in its practices is embedded into children’s upbringing as they are often being brought up surrounded with Polish books, CDs and Polish TV. No-one has ever seen a dragon and yet most people are able to identify one in a picture.

The Polish version of the Wechsler Intelligence Scale for Children (Wechsler, 2014) was considered, but it was not suitable, because the British version was rejected and choosing it would not be consistent with trying to find the matching test. Before TSD was created there was no measure that would specifically assess children’s linguistic skills and after consultations with academics from Poland, it was decided that using the TSD was the best possible option.

4.1.3 Two different language measures

Some aspects of the two chosen tests are similar and some different. They are analysing similar aspects of language – grammar (including inflexion and syntax) and lexicon. In terms of the inflexion the Polish test measures both conjugation and declension and the English measures only conjugation simply because there is no declension in English language. In terms of syntax – there is no assessment of the present continuous and present perfect tenses in the Polish test because they do not exist in Polish in a similar way to English form.

As regards differences - one of the two main ones is that the Renfrew test uses more open questions and the Polish test is based on finding the right word type of tasks. The other difference is that in the Polish test the emphasis is on vocabulary and in Renfrew test the emphasis is on grammar and on tenses in particular. This difference might come from the different characteristics of Polish and English – in Polish, tenses are relatively simple, but each noun and each verb needs to be conjugated and each noun declined.

There were a number of reasons for choosing these two tests. First of all, the test that was to be used had to be suitable for children as young as four, therefore the reading and writing skills should be excluded. Secondly young children that were to be assessed would have had a limited attention span, therefore the testing session should not take too long, but be concise and interesting for them. Both tests combine task-based methods with visual stimuli methods.

Another argument for choosing these two tests was that the children are presumably more advanced in Polish and the Polish test is suitable for children who already know the basic sentence structure; it has been designed to capture very subtle differences between children who are approximately on the same level of their first language development. The Renfrew test on the other hand checks more basic skills – which might be more suitable for L2 learners (or if English is their first language – younger children).

There was no need to translate any the measures used to assess the children – the Renfrew Test was originally created in English and the TSD test was originally created in Polish. There was an option of using the same measure in assessing both Polish and English competence of the participants. Using an English language measure translated in Polish or a Polish language measure translated into English would make the process of searching for an appropriate test much shorter and easier; however the disadvantages resulting from this would overrule the advantages. Deciding what language measure to use would be difficult enough but regardless of the final outcome of such a dilemma, the main problem linked with using the same measure would be that the assessment would not be accurate enough, therefore it would lack

validity. The comparison of the Renfrew Action Picture Test and the Dictionary Test for Children is presented in Table 3.5.

Table 3.5 *Comparison of the Polish and the English measure*

	TSD test (Polish)	Renfrew test (English)
Grammar - production	A) inflection (conjugation and declension) B) syntax: <ul style="list-style-type: none"> ▪ tenses <ul style="list-style-type: none"> -present -past ▪ plural forms (no regular or irregular differentiation in Polish) ▪ phraseologisms 	A) inflection (conjugation) B) syntax: <ul style="list-style-type: none"> ▪ tenses: <ul style="list-style-type: none"> -present continuous ("jumping"), -future ("going to"), -present perfect ("has tripped"), -simple past ("caught") ▪ irregular forms of plural ▪ sentence construction (including relative pronoun) ▪ passive voice
Grammar - comprehension	A) inflection (conjugation and declension) B) syntax: <ul style="list-style-type: none"> ▪ tenses <ul style="list-style-type: none"> -present -past ▪ plural forms (no regular or irregular differentiation in Polish) ▪ phraseologisms 	A) syntax <ul style="list-style-type: none"> ▪ tenses: <ul style="list-style-type: none"> -present continuous ("doing"), -future ("going to"), -present perfect ("has done"), ▪ passive voice
Lexicon – production	<ul style="list-style-type: none"> ▪ nouns ▪ verbs ▪ prepositions ▪ adjectives 	<ul style="list-style-type: none"> ▪ nouns ▪ verbs ▪ prepositions ▪ pronouns ▪ conjunctions (subordinating "because" and coordinating "and")
Lexicon – comprehension	<ul style="list-style-type: none"> ▪ nouns ▪ verbs ▪ prepositions ▪ adjectives 	<ul style="list-style-type: none"> ▪ nouns ▪ verbs

In fact, the need to avoid translating the assessment tools became one of the main assumptions of the current study as it was determined that translated measures do

not reflect all aspects of language development. Different language words (even though they have the same meanings) have different “frequencies” and uses, which is a consequence of different affective repertoires on a semantic level. Wierzbicka’s (1997) principle of “frequency” of words reflects centrality of concepts. She maintains that the difference in the frequency of words use “suggests a difference in cultural salience” (Wierzbicka 1997, p.12), for example the fact that the word “happy” is extremely frequent in English is a result of the existing pressure to smile, to be happy and have fun.

Repeating the same measure in different languages would not capture differences in terms of the hierarchy of concepts reflected in each language. All the translation and interpreting problems are caused by these very differences between languages.

Grosjean (1998) analyses in more detail assessment methods and potential problems choosing for his study participants the right stimuli. He also suggests that there are differences in stimuli used in experiments and studies which are supposed to be on the same “linguistic level”. Words of high frequency and difficulty level in one language might not have the same frequency and difficulty in another language, which means that a bilingual child will not be able to know them until she or he achieves a certain developmental level. The word: “happy” is a high frequency word and it would be hard to find a four-year-old child who would not know the meaning of this word. The Polish equivalent of the same word is a very low frequency word and there might well be a few young children without this word in their vocabulary.

Furthermore, some concepts do not exist in certain languages and cultures (for example “temper tantrums”, nowadays quite common in English does not have an equivalent term in Polish). Another example is the concept, common in Polish language and almost non-existing in English, of two occupations that one can have: one for which he or she was preparing during formal education (so called: learned profession) and another one which is one’s current occupation (so called: performed profession). There are cultural reasons why some ideas have a priority, and some can be found at the very end of this linguistic hierarchy. All these cultural components derive from the language being very specific; linked strongly to particular concepts

and loosely to others, and from it being emotional in a different way than other languages are.

For this reason, it was decided to find two separate measures and test the children with one in each language.

4.2 Parents' measures

The parents of the assessed children were asked to complete three questionnaires: a validated questionnaire on acculturation (the Acculturation Questionnaire) [Appendix 16], the Strengths and Difficulties Questionnaire (SDQ) [Appendix 18 and 19] – also validated, and a questionnaire designed for the study containing three elements: a demographic element, a section on the child's exposure to, and experience of English and Polish, and a section on parents' attitudes to English and Polish languages (the Family, Language and Attitude Questionnaire) [Appendix 13 and 14].

4.2.1 The Acculturation Questionnaire

The measure that was used in this study was the Vancouver Index of Acculturation (Ryder et al. 2000) which is a self-report questionnaire including scales of values, social relationships, and ethnic culture practices that has been used in several studies (David 2008; Ryder et al. 2000; Tsai 2012) [Appendix 15].

On the basis that acculturation practices reflect attitudes, this measure was accepted as an appropriate method of investigating parental attitudes in the current study because it assesses both enculturation (maintenance of the culture of the heritage country) and acculturation (process of "absorbing" the culture of the country of migration). The questionnaire reflects the two-dimensional model treating these two factors independently, not as values of the same variable, and was adopted for the purposes of this study (Berry 2005). Ryder et al. (2000) used the Vancouver Index of Acculturation while examining first and second-generation individuals of Chinese origin living in the USA, measuring their psychosocial adjustment and acculturation levels. The analysis of their results showed that the two subscales demonstrated interrelationships consistent with the predictions of the bidimensional

model to a much greater extent than in the case of the unidimensional approach. Ryder et al. (2000) conclude that acculturation as a bidimensional model of the acculturation construct is more valid than the unidimensional one due to the assumption that two orientations are independent of each other. They maintain that “different aspects of cultural self-identity may proceed along the acculturation continuum at different rates, with the potential for an over-exaggeration of the mainstream culture element or even backtracking as a result of ethnic reaffirmation” (Ryder et al. 2000, p.50).

All questions of the Vancouver Index of Acculturation are relevant to both migrants who have spent many years in their migration country and equally to those who have only spent very little time there. The scale is a Likert-type questionnaire and in total consists of 20 items, 10 of them measure enculturation and the other 10 relate to the acculturation scale. The response to each statement ranges from 1 to 9 with 1 meaning “strongly disagree”, 3 – “disagree”, 5 being neutral or “it depends”, 7 meaning “agree” and 9 – “strongly agree”. The mean of the even numbered items is the mainstream culture sub-score and the mean of the odd numbered items constitutes the heritage culture sub-score. The minimum score is 20 and the maximum score is 180. The reliability of the tests was investigated (N = 52), and the Cronbach's alpha reliability value for the whole test was 0.85, for the heritage scale 0.84, and for the host scale 0.81.

High scores on the mainstream culture scale mean that the respondents were more inclined towards the culture of their host country than respondents with low scores. High scores on the heritage scale mean that they were keener to follow principles and values of the culture of their own country than respondents with low scores. High scores on the host country culture sub-scale in conjunction with low scores on the heritage country sub-scale could be an indicator of a high level of assimilation represented by a respondent; low scores on the host country culture sub-scale in conjunction with the high scores on the heritage country sub-scales could indicate separation; high scores on both sub-scales suggested integration; and low scores on both sub-scales reflected marginalization. The questionnaire was

translated to Polish by an independent professional translator and proof-read by another one. Then the new translated text was translated back in order to check for any discrepancies.

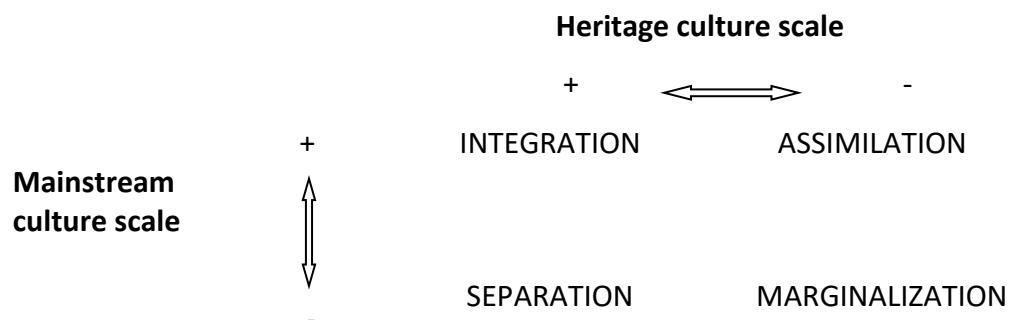


Figure 3.1 Integration, assimilation, separation and marginalization orientations

Some of the survey methods used in previous studies on acculturation were assessed below in terms of their usefulness for this study. Castigan and Dokis (2006) in their research on a Chinese ethnic minority group, used the Acculturation Rating Scale for Mexican Americans (Cuellar et al. 1995) which consists of 4 scales: private domains of acculturation assessing the participants' Chinese/Canadian values (measured with the Asian Value Scale); intensity of conflict between children and their parents (measured with the Issues Checklist); depressive symptoms (assessed with the Centre for Epidemiological Studies Depression Scale; and achievement motivation (measured with the Value of Academic Success scale). It was not considered a good fit for the current study because the nature of Polish migration to the UK is different than the nature of Mexican or Chinese migration to the US and some questions were not suitable. Moreover, the test is mainly measuring the difference between the levels of children's and parents' acculturation.

The Abbreviated Multidimensional Acculturation Scale (Zea et al. 2003), used by Calzada et al. (2009), is a multidimensional and bilinear (i.e. assessing both acculturation and enculturation) measure. Its purpose is to assess the following dimensions of the construct of ethnic identity: cultural competence, identity, language proficiency, social relations and values. The scale has 42 items and 4-point self-report response options (1-strongly disagree; 4-strongly agree for the identity

subscales or 1-not at all; 4-extremely well/like a native for the language and cultural competence subscales). It is more universal and multicultural than other acculturation measures therefore could be used with migrants of various origins, however most of its acculturation scales seem to be designed for migrants who have spent a substantial number of years in their host country. Furthermore, language proficiency is not necessarily always a measure of acculturation.

4.2.2 The Strengths and Difficulties Questionnaire

The parents were also asked to complete the Strengths and Difficulties Questionnaire, which is a tool used to test socio-emotional and behavioural functioning of children and adolescents. This assessment is a validated and well-used behavioural screening questionnaire (Goodman 1997), designed for children and young people aged two to 17 years old. It consists of five scales: emotional symptoms (internalizing problems calculated on the basis of feelings of misery, anxiety, worrying, obsessiveness, and hypochondriasis), conduct problems (externalizing problems were those concerning defiance, destructiveness, disobedience, temper tantrums, lying, stealing, and truanting), inattention-hyperactivity (this scale has been designed to diagnose attention problems, hyperactivity and impulsivity), peer problems (behaviour displaying peer relationship issue), and prosocial behaviour (empathic and prosocial actions, such as sharing, co-operating and helping). Each of the scales consists of 5 items (there are 25 statements in the whole test). Possible responses to each of them are: “not true”, “somewhat true”, and “certainly true”. The first 4 subscales are typically summed to give a “total difficulty” score and then they are presented alongside the prosocial score. Each scale of the questionnaire is scored from zero to 10. Total difficulties score is a sum of the first four scales (emotions, conduct, hyperactivity and peer problems scales) and ranges between 0 and 40. High scores on each of the first four scales indicate the presence of difficulties in terms of the children’s social and emotional health. High scores on the prosocial scale suggest that a child displays socially positive behaviour. The test was presented to the participating parents in Polish, but it did not have to be translated

independently in order to be used in this study as it already existed in several languages.

4.2.3 The Family, Language and Attitude Questionnaire

This Likert-type questionnaire was constructed specially for this study because none of the previously validated questionnaires were suitable for the purposes of this research. Those questionnaires were not used because they did not take into account the specifics of the European 21st century migration (Zea 2003). The main reason for most measures not being useful for this study was the fact that they were used in studies involving migrants who had spent most of their lives in their country of migration, even those who were children and grandchildren of migrants. Many existing questionnaires were also asking identity questions which would be “too much” for migrants who have only been in their country of migration for a few years. Some of the previously used questionnaires measured motivation and attitudes towards second language learning, but not in the context of migration (Gardner 2006). Most of them were not bilinear (i.e. assessing both acculturation and enculturation) measures but were focusing on only one aspect.

The Family, Language and Attitude questionnaire was constructed for this study and was used to gather demographic data on the time the family spent in Scotland, parents’ socioeconomic status, employment status and languages spoken by parents (the Family component); linguistic use and input in the past and present in both formal (for example school, nursery) and informal setting (for example home, friends’ house), its length and frequency (the Language component); and parents’ attitudes towards bilingualism (the Attitude component). These elements were included in order to examine variables playing known or likely roles in the children’s bilingual development – parents’ education, amount and quality of exposure to each language, and what parents think and feel about various aspect of two languages acquisition.

During previous studies of L2 language learning, similar data regarding language use, years of residence in the country of migration, frequency of contact with family and friends in the country of origin, frequency of socialisation with nationals of the country of migration (Calzada 2009); age at the time of immigration (Castigan and

Dokis 2006); family size and structure (Caughy 2002) was also collected. Hardin, Scott-Little and Mereoiu (2013) developed a tool called the Bilingual Information & Observation Questionnaire (BIO) in order to recognize bilingual Latino children's needs and spot potential difficulties they might face. Family environment constitutes an important element of this measure as the researchers felt that parents' information of family history regarding language development could significantly contribute to the way teachers perceive bilingual children's learning. The BIO questionnaire consists of such scales as exposure to two languages (at home and outside the home), patterns of the child's linguistic development (preverbal and verbal), and the child's present language use (receptive and expressive).

4.2.3.1 The family related questions

This part of the questionnaire consisted of three parts: "About you" (5 questions) and "About your child" (4 questions).

The responses to questions about who was completing the questionnaire, the time the family spent in Scotland, both parents' education level and employment status were collected in the first part of this section ("About you"). The family structure data has also been included in this part on the grounds that the researcher's experience and Grosjean's (2010) findings suggest that contact with native monolingual speakers of the child's languages is particularly important for L1 maintenance. On the other hand, interactions with older siblings might be significant in terms of L2 use, since sometimes they will speak English when playing with their younger brothers and sisters. Hardin, Scott-Little and Mereoiu (2013) also emphasize the role the extended family plays in the child's language development and acknowledge that the question of what language household members use is an important factor. Additionally, the questionnaire collected information regarding the parents' age and their languages knowledge (Polish and English). These two last variables (the family structure and parental age and language were explored with the use of the last item: "Please state who lives in your house, their relationship to the child, age, and tick whether they speak mainly Polish, mainly English or both Polish and English equally".

The second part ("About your child") of this section collected information regarding the country of birth of the children and has been included in this study, since it might affect family sense of identity. However, it is important to remember that whether a child was born in Poland or in Scotland is not as significant as might be expected, if the child does not attend any play groups and does not socialize with members of the host country group. Another question within this part was the question about the length of time the child had spent in any other countries which might have influenced their language learning.

4.2.3.2 The language use and questions related to engagement with a language

This part of the questionnaire consisted of two sections: "English use in the past" (2 items – the last one in a form of a Likert-type survey) and "Languages used at present" (5 items – the last one in a form of a Likert-type survey).

In studies relevant to this thesis, in order to assess the amount of linguistic experience a child had, their authors created some sort of index of cumulative language exposure (Haman et al. 2017; Unsworth et al. 2014; Venter, Garraffa, Sorace, and Guasti 2016). In Unsworth et al.'s (2014) study it comprises the amount of time spent with a child by parents, the amount of a particular language used with a child, the time a child spent at day-care or out-of-school care, and the number of hours per week a child spent on activities such as going to clubs, reading, watching TV, using computer and meeting with friends. For each of these activities a proportion of time spent using a language in question was calculated. The measure of the length of exposure was also added to the index calculations and the percentage of waking hours a child was exposed to a specific language was calculated. In the study of Venter et al. (2016) the measure of language exposure was based on a child's age of first exposure, their current quantity of language exposure, the traditional length of exposure (a child's age at first language exposure deducted from their chronological age), and the cumulative length of exposure (a total amount of language input).

The index of language exposure used by Haman et al. (2017) considered two aspects: quantity and quality of input. The quality component was based on the number of different speakers a child used their L1 with. However, it is questionable

whether in a situation of migration the number of speakers around a child reflects the quality.

In the current study two separate categories were created: English exposure in the past (section “English use in the past”) and Polish and English use at present (“Languages used at present”). The questions about the English in a child’s life in the past included their contact with English in formal, such as a nursery, and informal, such as a friend’s house, environments. There was an extra question regarding any other sort of English exposure which was later incorporated into the informal English exposure variable. In regard to all three categories (formal, informal and other) information regarding both the length (years) and frequency (hours per week) of the children’s contact with English was collected. It was assumed that the children were exposed to Polish for the rest of the time.

The second part regarding the languages use at present contained questions regarding additional current input in Polish and the Likert-type survey regarding the use of both languages outside school. There were two main elements of the additional current input in Polish variable: Polish school attendance (hours in a week and years) and the time the children spend in Poland on holidays (weeks per year).

The last item of the language use at present section was the survey about the “out of school time” which was constructed as a short Likert-type questionnaire containing five items. Each of these items applied to a different aspect of language use: reading, using media (for example watching DVDs), speaking to adults, speaking to other children, speaking to their siblings. The respondents had five possible answers to choose from: “always in English”, “mostly in English”, “half Polish half English”, “mostly in Polish”, and “always in Polish”. Each item was allocated a score and a medium score was calculated, i.e. the sum of points allocated for particular answers was divided by the number of options. Low scores (between 1 and 2.5) indicated that during their out of school time a child uses more English than Polish; high scores (between 3.5 and 5) meant that a child uses more Polish than English. Scores between 2.5 and 3.5 suggested that a child approximately uses English as often as Polish. For the purposes of some analyses two separate variables – one for Polish and one for

English were distracted from this one bidirectional variable. It was assumed that during their time at school the children used English.

4.2.3.3 The attitudes related questions

To assess parents' language attitudes nine questions were added to the main questionnaire for parents. The items were based on language attitude questionnaires used in previous studies (Baker 1992; Hakuta and D'Andrea 1992) [Appendix 17] and allowed identification of their language orientation (maintenance: questions C, E and G, e.g. "Ensuring that my child has a good knowledge of Polish is very important to me."; subtractive: questions A, D and I, e.g. "Good knowledge of Polish is not necessary for my child because English will give him/her better life opportunities."; and "bilingual": questions B, F and H, e.g. "A person who knows Polish and English has more changes to express his/her feelings.").

The statements also varied in terms of their emotional versus practical motivational content. An example of an emotional reason behind the parents' eagerness to preserve their culture's language would be: "I would like my child to speak Polish because this is my heritage language". An example of presenting more of a practical reason would be: "I would like my child to continue to speak Polish so that he/she is able to communicate with their extended family". Possible responses are: "definitely agree", "agree", "neither agree nor disagree", "disagree", and "definitely disagree" [Appendix 13 and 14]. The respondents scored between one and 15 on each of the scales. The higher the score on each scale, the more positive the respondent's attitude towards a particular orientation, for example a person who scored high on the maintenance scale was more inclined to try to develop their child's heritage language and a high score on subtractive scale suggested that L2 (mainstream culture language) was a priority for this particular respondent.

One additional variable was created – an SDQ change score which was the difference between SDQ difficulties scale scores at T1 and T2.

The summary of all variables and chosen measures is presented in Table 3.6 (independent variables) and Table 3.7 (dependent variables).

Table 3.6 *Independent variables*

Independent variables		
DATA SOURCE	VARIABLE	MEASURE
Data collected from children's language assessments	Language performance – change in Polish	Polish change score: TSD scale at T2 – TSD scale at T1
	Language performance – change in English	English change score: Renfrew scale at T2 – Renfrew at T1
Data collected from parents' questionnaires	Language exposure in the past (formal and informal)	Language exposure in the past - total score
	Demographics: ▪ time in Scotland ▪ parents' education ▪ parents' age	Data from the questionnaires
	Language use - present	Polish/English use – total score
	Polish School (extra Polish language input - formal)	Polish school attendance – total score
	Time in Poland (extra Polish language input - informal)	Time spent in Poland – total score
	Parents' language attitude	Total scores on scales (maintenance, subtraction and bilingualism)
	Parents' acculturation and enculturation orientation	Total scores on scales (acculturation and enculturation)
	Prosocial behaviour T1	SDQ prosocial scale score T1
	Prosocial behaviour T2	SDQ prosocial scale score T2
	Social and emotional difficulties T1	SDQ difficulties score T1
	Social and emotional difficulties T2	SDQ difficulties score T2

Table 3.7 *Dependent variables*

Dependent variables		
DATA SOURCE	VARIABLE	MEASURE
Data collected from children's assessments	T1 Polish	T1 TSD scale: total score
	T1 English	T1 Renfrew scale: total score
	Polish change score (T2-T1)	Polish change score: TSD scale at T2 – TSD scale at T1
	English change score (T2-T1)	English change score: Renfrew scale at T2 – Renfrew scale at T1
Data collected from parents' questionnaires	Parents' language attitude	Scores on scales (maintenance, subtraction and bilingualism)
	Parents' acculturation and enculturation orientation	Scores on scales (acculturation and enculturation)
	Extra Polish language input	Polish school attendance – total score + Time spent in Poland – total score
	Language use - present	Table Polish/English – total score
	Prosocial behaviour T1	SDQ prosocial scale score T1
	Prosocial behaviour T2	SDQ prosocial scale score T2
	Social and emotional difficulties T1	SDQ difficulties score T1
	Social and emotional difficulties T2	SDQ difficulties score T2

5. Pilot study

In order to ensure that the child assessments and the questionnaires for parents were suitable for this research a pilot study was carried out with four children (all living in Scotland) – two boys both aged 5 and two girls aged 5 and 6 and separately with 10 parents (eight mothers and two fathers). The mean English score was 23.12 (SD = 3.91, range: 18-27) and the mean of the Polish language test scores was 3.25 (SD =1.25, range: 2-5). The pilot study sample was relatively small so that as many potential participants as possible were retained to take part in the main study. Therefore, only a small number of participants were recruited for the pilot study.

Two of the families were living in England and eight were living in Scotland. Participating families were found through personal contact and all children's

assessments were conducted in the family homes. The pilot study was conducted first to confirm the appropriateness of the measures and procedure, and second to find out what amount of time would be needed for the actual assessments. Moreover, it was the source of more information such as: when it is a good moment to have a short break; what is the best layout of the assessment materials; and which questions needed to be asked with caution as they could be more difficult to understand by children than others. The measures were assessed as appropriate for the use with the Polish migrant children aged 4-7. It transpired that the Polish language assessment takes around 20 minutes and the English language assessment takes 10 minutes. It also let the researcher practise the routine and prepare for potential problems during assessments of the children from the actual sample.

The parents' questionnaires were completed in the parents' own time and returned to the researcher via e-mail [Appendix 7 and Appendix 8]. The parents were also asked to express their opinion on the items' relevance, usefulness, and clarity of the questions. Most parents, since all of them had more than one child, felt that there was a need for some further explanation regarding which child was the subject of the questionnaire. Two parents pointed out that some questions were formulated in a confusing way using double negatives and the reader was not sure whether to answer "yes" or "no". One parent suggested adding a question regarding parents' opinion on how fluent their child is in each of their two languages. A few parents agreed that there were too many answer options in the case of the acculturation measure which uses the 9-point scale (Ryder et al. 2000). However, it was decided to keep the original version of the questionnaire due to validity of the tool. All the comments were carefully considered, the participants' feedback and suggestions were taken into account, and some changes were implemented in order to increase clarity of the questionnaires.

6. Procedure

6.1 Children

6.1.1 Time 1

During the first stage of this research (from September 2014 until January 2015) the children's L1 (Polish) and L2 (English) proficiency were assessed. This stage of the research will be referred to as Time 1 (T1).

After the consent forms were returned, visits were scheduled to assess the children. Most of the assessments were carried out in the children's school and some in their homes. Hopkins and Bell (2008) emphasize the actual geographical location of the study is very significant, because it has impact on "power relations, structures and tensions experienced by children and young people in different places such as school, home or in the street" (Hopkins and Bell 2008, p.4). However, they are considering this issue in the context of allocated power and its balance in this respect was improved by the fact that the researcher was an outsider in both places – their homes and their school [see Section 7 of this chapter]. The assessments were carried out individually in a separate room and whether at the children's house or school, the environment was familiar to them. In order to reduce the difference between testing conditions at school and at home the parents were asked to leave the room when the assessment was conducted. Another reason to carry out the assessments without their parents being present was to eliminate possible tensions between parents and children and "advising" or "silencing" of children by their parents.

Assessments in schools were carried out in separate rooms to avoid distractions and in almost all cases schools were well prepared – on arrival a quiet room was offered, and the procedure facilitated. When this was not the case they were asked to provide a suitable place which sometimes involved periods of waiting at the outset for a room to become available. As a result, none of the assessments was carried out in an environment that would have a negative impact on the children's attention. There were no interruptions and most children could easily focus on their task. Each child's assessment date was noted in order to monitor the length of time between T1 and T2.

The language tests were carried out by the researcher first in Polish, then in English. The number of potential distractions was reduced as much as it was possible. Before commencing the test, the person conducting the assessment chatted a little bit with the child, talking about neutral matters, and explained that she was going to ask them some questions, some of which would be easy and some more difficult. During the test the researcher did not inform the child whether he or she had answered correctly or not, neither did she explain the meaning of the words or situations presented on the pictures if the child did not understand them.

The average duration of the Polish test was 20 minutes. The language used while testing was exclusively Polish. In a situation when the child did not answer, the researcher repeated the question once. If the child still did not answer, the researcher moved on to the next question. If the child answered: "I don't know", the researcher also moved on to the next question. She also repeated the question, a word, a sentence, or a task when the child asked her to do so. All answers were recorded on a scoring form which was individual for each child.

Initially a proper break was planned between the two language tests but after the pilot study it was decided to keep the break to the minimum required for removing the first test cards and preparing the second set. The reason for this was that it was easier for the children to stay concentrated and carry out both tasks without the break than to get back to their "academic mode" after the break, even the shortest one, particularly when it was announced to them that "now we are going to have a break". On the other hand, a short break between tasks was sufficient for the children to get into another language mode as it does not require great preparations and time. A small trigger from L1 or L2 is enough for a bilingual person to switch between their languages (Grosjean 2010). This was provided, as after completion of the first task, the researcher started to speak English.

All instructions regarding the administration of the Renfrew test were also followed. The researcher sat opposite to the child and started by saying: "I've got some pictures here to show you. Listen to the questions, then tell me the answers.". In order not to limit the child's productivity the researcher did not look at the picture

together with the child but held it up so that only the child could see it. The children's answers were recorded on a scoring form, separate for each child, exactly in the words spoken by the child. Any promptings were of an indirect nature; the researcher could say: "yes", "mhm" or "and...?". A direct question was allowed in the case of picture number 7 ("Why has she lifted the child up?"). There were no more than one or two prompts per picture and with no more than two pictures. If the child's response was very limited, the researcher encouraged them by saying: "Anything else?". If a child gave a conclusion rather than a description of the picture, the researcher asked: "Yes, but what is *actually* happening...". On average this assessment took around 8 minutes. All the above presented aspects of the procedure were part of the original instruction on how to administer the Renfrew language scales.

After completion of the assessment each child was given a storybook as a "thank you", a letter, and the SDQ form to take home and give to their parents.

6.1.2 Time 2

The second part of the study was carried out a year and a half after conducting the first part, between April and June 2016. This stage of the research will be referred to as Time 2 (T2). Because this was a follow up of the initial stages of the study, arranging visits to schools and assessments of children was much more efficient than at Time 1.

The children's language proficiency (both L1 and L2) was assessed again with the use of the same methods that were used at the beginning of the study. Again, most of the children were assessed at their schools with only a few seen in their homes. During this part of the study the researcher was helped by an assistant. The researcher was aware of the limitations of having a research assistant, however recruiting another person who would be able to assess the children was necessary due to the researcher's personal circumstances and all measures were taken in order to ensure that this would not have any negative impact on the study. The assistant was also bilingual and could speak fluent Polish and English, she had previous experience in school environments, had been trained on how to carry out

assessments with children and participated in a trial session before going to see the participants. She conducted approximately half of the assessments with children (37 children in 16 schools). Having the assessments carried out by both the researcher and the research assistant allowed for tests in different schools being carried out at the same time and as a result shortened the overall amount of time spent on conducting the assessments. However, there were some difficulties ranging from sample attrition - five children dropped out of the study [see Section 3.5 of this Chapter] - to some problems with accessing the children. One of the children also moved to another school, but it was possible to gain information regarding his new school and obtain consent from his new head teacher and his class teacher. Some visits to families' houses had to be made twice. One of the Polish schools had been closed due to low demand in the area and two children from this school had to be visited at home. Another two families moved to different parts of Scotland, but once they were located were able to participate in the study. As a result of all the above the final number of child participants was reduced from 74 to 69. This could be classified as low level sample attrition. However, these numbers regard only child participants who were visited by the researchers at schools and homes. Most children had positive associations with the first stage of the study, remembered what it involved, and some had a vivid recollection of receiving a "thank you" gift. Nonetheless, the attrition rate in this study can be considered low.

6.2 Parents

6.2.1 Time 1

At Time 1 the parents were also asked to complete the SDQ (the Strengths and Difficulties Questionnaire) (Goodman 1997) [Appendix 18 and 19] [see Section 6.2 of this chapter). The parents were given the participant pack which contained an SDQ and instructions for completing the form. The parents were asked to complete the questionnaire and send it back in a pre-paid and addressed envelope. The pack also contained a question regarding their child's date of birth and the information regarding the gender of the parent who completed the SDQ as at T2 the same person

was going to be asked to complete the questionnaire again. The purpose of this was to avoid discrepancies deriving from different perceptions of varying respondents. There were 52 mothers and five fathers who filled in the questionnaire. As the questionnaires were completed by the main carer only (a mother or a father) – their views might not necessarily have reflected the opinion of the other parent. However, they were the parents who were spending most time with their child [see Section 3.1 of this Chapter].

Fifty-four parents returned the questionnaire without prompting. The 17 parents who did not return the questionnaire initially were contacted again via e-mail, telephone, or by post with a reminder letter, depending on the type of contact information that the parents had given on their consent forms. The letter only informed the parents that their questionnaires had not reached the researcher without using persuasion of any sort or linking their response to any consequences. However, only two out of these 17 parents responded and returned the questionnaire. At the first stage of the study there were 57 parents' questionnaires returned in total.

All data collected in the first part of the research consists of the results of the Polish and English language assessments; results of the Strength and Difficulties Questionnaires; child's gender; date of the assessment; child's age. Child's age was rounded up or down to the year and month based on the child's date of birth and the date of the test, for example if the test took place six years, nine months and five days after the child's date of birth – the child's age was recorded as six years and nine months; if the test took place six years, nine months, and seventeen days after their date of birth – the child's age was recorded as six years and ten months.

6.2.2 Time 2

At T2, after the children's language tests were conducted, their parents were sent a further pack of three questionnaires: The Family, Language and Attitude Questionnaire (which consisted of family background information, language input data, and language attitude questions), The Acculturation Questionnaire - translated into a Polish version of The Vancouver Index of Acculturation (Ryder et al. 2000), and

the SDQ, which parents were asked to complete for the second time. The summary of the research design is presented in Table 3.8.

Table 3.8 *Overview of the task completions*

TIME 1 (September 2014 – January 2015)		TIME 2 (April 2016 – June 2016)	
Children Polish and English assessments	Parents Completion of first SDQs	Children Repeat of Polish and English assessments	Parents <ul style="list-style-type: none"> ➤ Completion of second SDQs ➤ The Acculturation Questionnaire ➤ The Family, Language and Attitude Questionnaire

After feedback was received from the parents who took part in the pilot study, most questions of the Family, Language and Attitude Questionnaire were slightly changed in order to encompass a wider range of possible answers. Despite this, some of the respondents still found that giving a one-word answer did not reflect properly their situation and elaborated on the subject in their responses. Where possible, answers were incorporated into the data and when it was not feasible, the respondents were contacted and asked for clarification of their point. Some questionnaires were returned incomplete. Some respondents omitted questions which in their opinion did not apply to them, for example some who had chosen to answer “I have no partner” did not give their former partner’s education level. Some appeared to find it difficult to respond to hypothetical questions such as: “Would you marry a person brought up in your heritage culture?”. A small number of respondents, when they were asked to list all members of their household, would fail to include themselves. Efforts made to recover this missing information over the telephone proved successful in almost all cases.

Fifty-three questionnaires out of 69 were returned at this stage (T2). However, 10 parents completed and returned their questionnaires only at T1 and did not return them at T2. In addition, five parents who completed the questionnaires at T2 had not returned the SDQ questionnaires at T1. As the result of these omissions, 15 questionnaires could not be used and only forty-eight families were included in the final data database. Consequently, there were 69 children who completed

assessments and could be analysed in terms of their language learning progress and 48 participating families that could be analysed with regard to all variables.

Table 3.9 *Number of children assessed, and questionnaires returned at each stage of the study (T1 and T2)*

	T1	T2	T1 and T2
Children's assessments	74	69	69
Parents' questionnaires completed only at particular stage of the study	57	53	48

7. Ethical issues

The current approach to studies with involvement of children is based on the principle that “children, just like adults, are citizens who hold their own views and perspectives, they have competencies and the right to be heard, and they are able to speak for themselves if the appropriate methods are used” (Einarsdottir 2007, p.197). The research is not *on* children, but *with* children who are perceived as social actors and are supposed to be treated accordingly (Einarsdottir 2007). The study described in this thesis involved a participatory design therefore there was no possibility to carry it out in any other way than *with* children. Their active participation was the main condition of being able to generate and use their scores.

However, the biggest challenge in this research was not how to respect this view, but how to persuade those who safeguard the interests of children that the study design did encompass all the above, that appropriate methods were to be used and all the ethical directions had been considered and were going to be followed. During this study the ethical guidelines of the British Psychological Society (Code of Ethics and Conduct) (Ethics Committee of the British Psychological Society 2009) and the British Education Research Association (BERA) (British Education Research Association 2011) were followed. The Research Ethics Committee of the Moray House School of Education in Edinburgh University approved the study.

Before the study commenced the permission from all the involved Councils was obtained. The researcher and the assistant who were going to carry out the

assessments applied for and received the PVG (Protecting Vulnerable Groups) certificate.

During the process of obtaining consent from all interested parties (schools and the local governments, teachers, parents and children), the participants were informed of all aspects of the research that might be considered important in their decision-making process. It was explained to them that participation in the study was completely voluntary, the project was independent of schools and that it would not have any bearing on the children's education. The results were confidential, and the children's schools were not informed about the results of their individual assessments. All participants were able to withdraw their consent at any point of the study and in such cases their data were not going to be used.

The parents were asked to give written permission for their children to be study participants. The children were asked for their oral permission to take part in the study. The purpose of the research, and their involvement was explained to them in simple words (Barnardos 2016; Einarsdottir 2007). The researcher also explained to children that the assessments were conducted to find out the way school children learn languages and that the purpose of the study was to gain some knowledge about all children, not just one particular pupil. The children were also informed that their parents had been told about the study and consented to their participation in it. However, they were also asked if they were happy to take part in the assessment when they were about to start it and advised that they would be able to stop the assessment at any time if they were unhappy about it, whether signs of their distress were verbal or non-verbal.

The children who had a chance to take part in the pilot study were asked their opinion regarding how tiring and boring the assessment was, therefore they were involved in piloting procedures and in a way able to influence the study at the planning level (Barnardos 2016).

The unequal relation between a child and a researcher who comes from a position of power and authority (Einarsdottir 2007) was reduced by the fact that the assessments were carried out in an environment that was very familiar to children

(either in their school or in their home). Moreover the researcher assumed the status of a learner, who came to see the child, because the child was identified as someone who will be able to provide the researcher with needed information, the children became “the experts and had the knowledge” (Einarsdottir (2007) p.204). Einarsdottir (2007) who was also asking the children to assist her in her study, explained to them her reason is the fact that they had some knowledge in a particular field she was interested in. The methods used were child-friendly methods, none of the subtests were too daunting and it was easy to keep the children’s attention without too much effort, because most materials used (such as pictures) were quite attractive for them. The assessments were carried out in an environment that was familiar and comfortable to children and unknown to the researcher.

The child participants were in a situation of assessment which might cause them some stress, particularly due to their young age and the fact that the researcher was an “outsider”. Measures were taken to minimise any discomfort and to protect them from stress related to the assessment procedure by looking out for any signs of anxiety in the children. If the child had a difficulty with a particular question or task, the researcher continued the assessment without waiting for the child to become worried about it. Every effort was made to avoid the situation when the assessment becomes a negative and tiring experience.

After collection of the data the participants and schools were given feedback including child-friendly feedback and information on the outcome, if they had expressed a wish to receive it. No information on individual children’s results was disclosed.

If the parents wished to discuss their children’s performance the information was given, but any evaluative statements were avoided. All information obtained during the course of the study was anonymised and no personal information was published or shared with any other agencies.

In regard to the part of the study in which the parents were active participants – the questionnaires they completed were not intrusive and did not contain any questions that could be perceived as excessively personal. The questionnaires were

matched to the children, but the data was confidential insofar as only the researcher and research supervisors had access to the individual information. Data were then anonymized, i.e. coded numerically for analysis.

At Time 1 the participating children received a storybook and at Time 2 their parents received a voucher as a thank you. It was felt that a storybook given to a child after the assessment was an ethical incentive and it was unlikely that it could have affected their performance. In other words, their motivation during their assessment was not influenced by anticipation of a reward for their task – in this situation the gift was more of a “thank you” than an incentive (Grand and Sugarman, 2004). Most of the children was genuinely surprised by the fact that they were receiving storybooks. On the other hand, it could possibly create some positive associations and influence their readiness to participate in the second part of the research.

Similarly, the parents were given their vouchers in appreciation of the time they spent on completing the questionnaires. The parents knew that they would receive a thank you gift, but the only motivation that could be affected was their motivation to complete the questionnaire, not to complete it correctly, because there were no correct and incorrect answers. According to Grant and Sugarman (2004) incentives can only negatively affect the study, when they are combined with some specific factors – “where the subject is in a dependency relationship with the researcher, where the risks are particularly high, where the research is degrading, where the participant will only consent if the incentive is relatively large because the participant’s aversion to the study is strong, and where the aversion is a principled one” (Grant and Sugarman 2004, p.717). However, it cannot be ruled out that the adult participants of the current study might try to complete the questionnaires in a way they thought they should, according to their assumptions regarding what the researcher would like to see, reflecting social desirability bias (Brzeziński 1997). The bias can rarely be ruled out but the survey approach as opposed to the interview approach would reduce the risk. The researcher’s expectations could not be described as obvious. Additionally, the social desirability bias phenomenon occurs regardless of offered incentives (Brzeziński 1997).

All data were stored in the researcher's computer in the office with password only access. The paper copies of all documents i.e. the consent forms, the assessment forms, the score sheets were stored in the researcher's office at Edinburgh University. The data will be stored until the thesis is due to be published and then all questionnaires and assessments results will be deleted.

9. Conclusion

In this chapter the methods used in the study have been outlined, the research design presented, the process of recruiting the study participants and data collection procedure explained. It also presented the pilot study conducted before the actual study.

The next three results chapters contain the data analysis which has been split from one large study into connected but separate parts. Chapter 4 titled "Language development" focuses on Research Question (1). It reports the results of linguistic assessments in Polish and English and analyses their separate components: receptive and productive language skills in the case of the Polish measure; grammar and information in the case of the English measure. The same chapter also contains the analysis of the children's results in relation to their gender and age and comparison between T1 and T2.

Chapter 5 "Social factors" answers Research Questions (2) and (3), presenting the results regarding the parents' cultural orientation, their language attitudes, and the children's psychosocial functioning results of the study. It also contains regression analyses of the main variables.

Chapter 6 "Language input" focuses on Research Question (4). It presents the findings regarding the linguistic input questions that were included in the parents' questionnaires.

CHAPTER 4

LANGUAGE DEVELOPMENT

1. Introduction

The main purpose of this longitudinal study was to examine the language development patterns among Polish migrants' children living and attending mainstream education in Scotland. In this first part of the study the focus was on exploring the ways that the children's linguistic skills in their two languages, Polish and English, were developing at the beginning of their school education.

This chapter sets out to answer the first research question "What is the direction and rate of development of L2 (English) and L1 (Polish) among the 4 to 6-year-old children of Polish migrants to Scotland?". The aim of this part of the study was to establish whether there would be progress in the children's linguistic skills in their two languages (direction) and, if so, whether the acquisition of one of the languages was more rapid than the acquisition of the other (rate). The direction of L1 and L2 development was not something obvious and the possibility of language attrition in Polish was also to be explored because studies on bilingualism in a situation of migration indicate that attrition of a native language is a common consequence of changing linguistic environment (Grosjean 2010; Jaspaert et al. 1986; Schmid and Dusseldorp 2010).

Moreover, in terms of the rate of development of L1 and L2, it was expected that English would be developing in a more dynamic way, i.e. progressing more rapidly than the children's native language – Polish, because they had been using Polish for a few years and in terms of learning English most were on an elementary level. This expectation is based on the Ebbinghaus model of learning according to which a learner makes very quick progress at the beginning of their learning (represented by a steep learning curve) and after this first short period - the rate at which they improve their skills slows down considerably, i.e. their learning curve becomes much flatter (Ebbinghaus 1885). This principle has also been considered in the context of both L1 and L2 acquisition (DeKayser 1997; Jaspaert et al. 1986). Additionally,

although L2 development resembles development of L1 (Bialystok 2001; Bialystok and Hakuta 1994; Goodz 1994; Jia 2003), children who are starting to acquire their second language have a base in the form of the linguistic structures of their native language (Wygotski 1962), which were not there during their L1 acquisition. Even if Tabors' (1997) stages of L2 development were universal and common to all children, in the case of primary school children, the first two stages (attempts to communicate in L2 and silence) do not last long. It was expected that even if the start of development of L2 was delayed at the beginning, it would still continue in a more progressive way than the children's L1 development. Furthermore, 71.7% of children who participated in the research had formal, and 73.6%, - informal contact with English prior to starting school and they could have completed at least the first of Tabors' (1997) stages, if not the first and the second one.

In order to explore the change in the children's competence over time, the research design was based on repeated testing. The children participated in two testing sessions - one at Time 1 (T1) and one at Time 2 (T2), which took place approximately a year and a half after the first session. When the children were assessed for the first time (at T1), they had only just started school and were at the beginning of their Primary 1 class. When they were assessed for the second time, they were finishing their Primary 2 class. This was a within-subject design, with only one group of participants and the main comparisons were made between the children's Polish language level at T1 and T2, and their English language level at T1 and T2. The main expectations were that both the children's English and Polish language scores would improve over time but that the difference between their English scores at T1 and T2 would be greater than the difference between their Polish scores at T1 and T2.

This chapter is presented in two parts. The first part presents all the demographic statistics regarding the children. The second part reports on children's Polish and English language test scores at T1 and T2 and answers Research Question (1). Additionally, it explores the variation in both languages' outcomes. Each language has been analysed taking into consideration two scales its test comprised:

Information and Grammar scales (English test) and Receptive Language and Productive Language scales (Polish test). This chapter also contains additional exploratory analyses of two factors known to influence language development: age and gender.

2. Children's demographic information

In total, 69 families participated in the research. Child participants comprised 37 girls and 32 boys whose two languages (Polish and English) were assessed at T1 and T2.

The demographic factors investigated during the whole study were children's age, gender, and place of birth; parents' education, languages spoken, age, and employment status; and time spent in Scotland by the family and its composition. These demographic variables were divided into those regarding the children (their gender, age, place of birth), those regarding the parents (their age, education level, employment status, languages used), and those regarding the whole family (household composition and time in Scotland). This chapter explores the role of the child's age and gender factors.

At T1 the children's mean age was 5 years 3.5 months ($M = 5.29$, $SD = 0.37$, range: 4 years 8 months - 6 years 3 months). At T2 the children's mean age was 6 years 9 months ($M = 6.76$, $SD = 0.37$, range: 6 years 1 month - 7 years 9 months).

The data regarding the children's age and gender were obtained at Time 1 and they apply to the whole sample ($N = 69$). All the other demographic data were collected from parents' questionnaires at the second stage of the study and they apply to the children of parents who returned the questionnaire ($N = 53$). More in depth information regarding the families can be found in Chapter 5.

3. Measures

3.1 Measure used for L2 (English) assessment

The Renfrew test was used in order to assess the children's English language competence. In scoring, a child is given 0, 0.5 or 1 point on the base of the word's relevance, accuracy, the number of details included in the answer and constructions used. Very specific instructions with concrete responses and word examples are included in the test manual. In the Information category, their score range is between two and seven points. In the Grammar category, they range between two and eight points. The maximum score for the Information scale is 40 and the maximum score for the grammar is 36.

For the analysis, a total English score was created by adding the Grammar and the Information scores. The total English score was the sum of the children's Grammar and Information scores.

3.2 Measure used for L1 (Polish) assessment

The measure use for the purpose of this study was the Test Słownikowy dla Dzieci TSD (Koć-Januchta, 2012) [Appendix 9 and Appendix 10]. Children were given 1 point or 0 points depending on their answers. The following factors did not affect the assessment of the answer: using diminutives; placing the nouns among other words (for example: "a fireman and water"); preceding the noun with such words as: "I guess" or "I think"; adding an adjective to the noun (for example: "tooth fairy"); a pronunciation problem caused by the young age of the child. The following factors did affect the assessment and resulted in allocating zero points for an answer: dialect variations; describing a part of the picture (for example: "peacock's eye" instead of "a peacock"). Unlike in subtest two, here the words had to be used in the right case and correct plural or singular form. Using the wrong case of a noun or the wrong form made the answer incorrect.

The score of each of the four subtests was standardized taking into account a child's age. Then the scores of subtests 1 and 3 were added up so that the researcher could obtain the receptive language competence score; the scores of subtests 2 and

4, after being added together, constituted the productive language competence score. The sum of the scores of all subtests was the general language competence score. Then all three main scores were calculated into “STen” (standard ten) scores ranging from 1 to 10. The maximum possible unstandardized score for Productive language subtests and for Receptive language subtest was 20 points and the maximum total score possible was 40 points. Further information on the methodology can be found in Chapter 3.

4. Procedure

The T1 tests started in October and finished in January 2015. The T2 tests were carried out between April 2016 and June 2016. The time difference between the two assessments (T1 and T2) ranged from 1 year 3 months to 1 year 8 months ($M = 1.47$; $SD = 0.08$). In order to keep the time difference (T2 minus T1) as similar as possible across the whole sample, the children who were assessed first at T1 were also approached first at the beginning of T2 testing.

The Polish test was carried out first (Test Słownikowy dla Dzieci TSD – Koć-Januchta, 2012) because it was accepted that Polish was the dominant language for most of the children. Being able to use the language that they were better at was a factor facilitating this part of the research as it had a potential of making their whole task easier to understand. Giving correct answers at the beginning of the assessments was supposed to put the children at ease and encourage them to continue the task. Testing them with their second language, therefore more difficult, test (English language assessment) first might have been discouraging for some of the children. The researcher also noticed that some children seemed to be relieved that they would be understood and were able to express themselves without difficulty. The fact that the researcher spoke Polish from the very beginning, while introducing herself and explaining the purpose of the procedure, seemed to make some children feel more relaxed. This also constituted some sort of compensation for the researcher status of an adult linked to an institution (such as a university) and allowed for the procedure to be potentially perceived as slightly less formal.

After the Polish test the children were assessed with the use of the English language test. The test chosen for this particular part of the study was “The Action Picture Test” (Renfrew, 1997). Just like in the case of the STD Polish language test the language used during the whole assessment was the language of the test. The children were both given instructions and asked questions in English.

5. Results

The first variables to be analysed were the children’s assessment scores in English and in Polish at T1. This allowed to check the general level of the children’s L1 and L2 at the onset of the study and the start of school.

To answer Research Question1, the next step was to compare the scores at T1 and T2 to discover what progress was made between the beginning and the end of the study. Descriptive statistics were carried out for each of the four tests for the whole participant group (N = 69). These four tests were Polish language scores at T1, English language scores at T1, Polish languages scores at T2, and English language scores at T2. Then, as the children’s language tests produced continuous data, repeated t-tests measures were used. To control for multiple comparisons Benjamini-Hochberg (1995) False Discovery Rate correction was used for t-tests and correlations in this chapter. An additional variable (a change score) was created in order to compare the children’s T1 and T2 scores. The children’s scores at T1 were deducted from their scores at T2 and the values obtained were treated as additional variables – the English change score and the Polish change score.

Finally, the relationship between L1 and L2 scores was explored so it was possible to check whether the children developed similarly in both tests (English and Polish) [see Section 5.3 of this chapter].

5.1 Results of English (L2) tests

The scores for the two sub-tests (Grammar and Information scales) in English were added together to give a total score in English, then means, standard deviation values

and ranges were calculated. These two components of the test were also analysed separately in order to investigate whether one aspect differed from the other.

5.1.1 Total scores at T1 and T2

At the onset of the study the mean of the test scores was 23.91, and at T2 – 44.67. The maximum score a child could obtain was 76 (both scales). The results are shown in Table 4.1. Table 4.2 presents the Polish languages scores for comparison.

Table 4.1 *English language scores (N = 69)*

	N	Mean	SD	Min.	Max.
English total score at T1	69	23.91	17.18	0	71.5
English total score at T2	69	44.67	14.40	0	73.5
N	69				

Table 4.2 *Polish language scores (unstandardized and standardized) (N = 69)*

	N	Mean	SD	Min.	Max.
Polish standardized total score (T1)	69	3.39	1.69	1	9
Polish standardized total score (T2)	69	2.87	1.59	1	9
Polish unstandardized total score (T1)	69	15.41	5.44	6	33
Polish unstandardized total score (T2)	69	13.77	5.39	4	32
N	69				

To access whether the children's L2 developed over time, and if so – in what direction, their total scores at T1 and T2 were compared. A paired-samples t-test was conducted to compare the children's development of English between T1 and T2 and the difference in means was found to be highly significant ($t(68) = 12.08, p < 0.01$). The direction of L2 development indicated an increase in the children's language competence over time.

There were two outliers, where children obtained unusually high scores with total English test score above 52. The sample was re-analysed without these two high-scoring children, but there was no difference in the outcomes.

There were seven children who initially did not have any English language skills. One did not understand the questions of the English test and this child's results were also included. All these seven children were scored with zero (total score) at T1. There were also seven children whose Grammar score at T1 was zero but whose

Information score was higher so their total score at T1 was above zero. Out of these seven who had no English language skills at T1, only one child also scored zero (total score) at T2. The other six children's English improved and four achieved scores above 40.

The fathers of three participating children were not Polish. Predictably, children whose fathers were not Polish did better in English at both T1 and T2, but their progress between T1 and T2 was not as great as that of children with two Polish parents. At T2 there were many other children who received higher scores than those three children whose fathers were not Polish.

In regard to L2 the results of the children whose parents completed the questionnaires (N = 53), at both T1 and T2 were similar to the results of the whole group of child participants (N = 69) [Table 4.3]. This was also the case in terms of their development between T1 and T2 (change score).

Table 4.3 *English language scores (N = 53)*

	N	Mean	SD	Min.	Max.
English total score at T1	53	27.68	16.40	0	71.5
English total score at T2	53	47.80	12.15	20	73.5
N	53				

These results indicate that there was a statistically significant improvement in the children's English language skills during the time between T1 and T2. The finding was in line with the prediction that English would develop significantly between T1 and T2, providing the answer to the Research Question 1.

5.1.2 Grammar and Information scores

The children's L2 improved overall, but the English test comprised two sub-tests and in order to check whether the difference was evident in both components of the test: Grammar and Information and fully answer Research Question 1, further analysis was conducted. The analysis of these two scales is presented in Table 4.2. The scores in both categories (Grammar and Information) increased over time. A paired samples t-test confirmed that the differences in Grammar and Information scores between T1 and T2 were also significant ($t(68) = 12.43$, $p < 0.01$ for Grammar

and $t(68) = 10.45$, $p < 0.01$ for Information). These results indicate that the improvement in L2 applied to both scales of the test.

Table 4.4 *English language Grammar and Information scores – all children (N = 69)*

	Overall English test score		English Grammar score		English Information score	
	T1	T2	T1	T2	T1	T2
M	23.90	44.66	8.89	19.50	15.01	25.16
(SD)	(17.17)	(14.39)	(7.93)	(7.54)	(9.61)	(7.38)
Range	0-71.5	0-73.5	0-32.0	0-36.0	0-39.5	0-37.5

At both T1 and T2 the Information score was higher than the Grammar score. The mean difference between the Grammar and Information score at T1 was 6.12 and the mean difference at T2 was 5.66. A paired t-test found that this difference was significant ($t(68) = 12.75$, $p < 0.01$ at T1; and $t(68) = 11.92$, $p < 0.01$ at T2).

There was also a strong positive correlation between the Information and the Grammar English language score at T1 ($R = 0.95$, $p < 0.01$) and T2 ($R = 0.86$, $p < 0.01$). This is understandable because in order to achieve any points for Grammar, the participants had to give at least some basic information.

5.1.3 Outcome in various groups – exploratory analysis

In order to examine whether the children who had a higher level of English at T1 also tended to score higher at T2, a test of correlation was carried out and it indicated a positive, significant correlation between the scores at T1 and T2, ($R = 0.61$, $p < 0.01$). Better English at T1 was an advantage for children in terms of their language scores at T2.

The whole group of participants ($N = 69$) was then split into three categories: the children whose results improved, the children whose results stayed the same and the children whose results deteriorated [Table 4.5].

Table 4.5 *Groups of children whose results improved and those whose results deteriorated - English*

	Frequency	Percent
Children who deteriorated	7	10.15
Children who improved	61	88.40
Children whose results remained the same	1	1.45
Total	69	100.0

To sum up, the findings presented above indicate that the children's English had developed significantly between T1 and T2 and they apply to both information and grammar aspects of their competence and to the whole participant group. Only eight children did not improve in the time period.

5.2 Results of Polish (L1) tests

It was predicted that the progress in L1 might not be as great as the progress in L2. The Polish test comprised two sub-tests: the Productive and the Receptive Language competence. Then these two scores were added to create a total score of the test, and means, standard deviation and ranges were calculated. In order to investigate whether the difference in the children's progress was similar in both, the two sub-scales were analysed separately.

5.2.1 Total scores at T1 and T2

During the analyses of the children's language test results all 69 participating children's results were included. In order to establish the direction and rate of L1 development the means, ranges and standard deviation of the children's Polish language assessment scores at T1 and T2 were calculated and compared. The Polish language scores have been calculated in two ways: as "raw" i.e. unstandardized scores and "STen" i.e. standardized scores. If it is not indicated within the text, the Polish language results are based on standardized scores.

The results are presented in Table 4.6. The L2 scores are shown in Table 4.7 for comparison.

Table 4.6 *Polish language scores (unstandardized and standardized) (N = 69)*

	N	Mean	SD	Min.	Max.
Polish standardized total score (T1)	69	3.39	1.69	1	9
Polish standardized total score (T2)	69	2.87	1.59	1	9
Polish unstandardized total score (T1)	69	15.41	5.44	6	33
Polish unstandardized total score (T2)	69	13.77	5.39	4	32
N	69				

Table 4.7 *English language scores (N = 69)*

	N	Mean	SD	Min.	Max.
English total score at T1	69	23.91	17.18	0	71.5
English total score at T2	69	44.67	14.40	0	73.5
N	69				

In order to establish whether the children's Polish language skills improved between T1 and T2 their scores at T1 were compared to their scores at T2. A paired-samples t-test was carried out to compare the children's development of Polish between T1 and T2 and the difference in means was significant ($t(68) = -3.27, p < 0.05$). The children's general Polish scores at T2 deteriorated significantly in comparison to T1.

When the three children whose fathers were not Polish were excluded from the analysis, the results were very similar to the ones that were obtained for the whole group of participants. At T1, when $N = 66$, the mean was 3.44 ($SD = 1.69$) ($M = 3.39$, $SD = 1.69$ in the whole sample), and at T2 it was 2.89 ($SD = 1.57$) ($M = 2.87$, $SD = 1.59$ in the whole sample).

The results of the whole group of children ($N = 69$) were similar to the results of the children whose parents completed the questionnaires ($N = 53$) at T1 and T2. Their change score did not differ much from the results of the sub-group of 53 whose parents participated in the study [Table 4.8].

The direction of development of the children's Polish was opposite to the development of English. These results are in line with the expectation that L2 would develop in a more progressive manner than L1 and confirm the possibility of L1 attrition.

Table 4.8 *Polish language scores (unstandardized and standardized) (N = 53)*

	N	Mean	SD	Min.	Max.
Polish unstandardized total score (T1)	53	15.13	5.34	6	33
Polish standardized total score (T1)	53	3.30	1.67	1	9
Polish unstandardized total score (T2)	53	13.32	5.45	4	32
Polish standardized total score (T2)	53	2.75	1.60	1	9
N	53				

5.2.2 Productive and Receptive language scores

Like in the case of the English assessment, the Polish test consisted of two sub-tests, that were analysed separately in order to learn whether the children did better in one of them than in the other. The analysis of the children's Receptive versus Productive Language scores is presented in Table 4.9. In order to find out whether the results of one of the scales were contributing more to the general test results, a statistical analysis of the test components (Productive and Receptive Languages) was conducted. A paired t-test found significant differences at T1 and T2 between both Productive Language scores ($M = -0.32$, $t(68) = -2.26$, $p < 0.05$) and between Receptive Language scores ($M = -0.49$, $t(68) = -2.32$, $p < 0.05$).

Table 4.9 *Polish language scores (standardized)*

	Overall Polish test score		Polish Productive Language score		Polish Receptive Language score	
	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>	<u>T1</u>	<u>T2</u>
Mean	3.39	2.87	3.32	3.00	3.80	3.30
(SD)	(1.69)	(1.59)	(1.64)	(1.59)	(1.72)	(1.58)
Range	1-9	1-9	1-8	1-7	2-10	1-9

At both (T1 and T2) the Receptive language scores' mean was higher than the Productive language scores' mean, i.e. most children's speaking skills scores were below their understanding scores. To explore whether, at any time, one Polish language subtest was significantly more difficult for the children than the other, a paired t-test was conducted first for T1 scores and then for T2 test scores. It indicated that the difference between Receptive and Productive languages scales scores was statistically significant only at T1 ($t(68) = 2.58$, $p < 0.05$).

5.2.3 Outcome in various groups – exploratory analysis

Additional analysis was carried out with the categorical data obtained after splitting the whole group of participants (N = 69) into three sub-groups (according to their unstandardized scores): the children whose Polish between T1 and T2 improved, those whose Polish deteriorated and the group whose Polish remained the same. The analysis indicated that there were 19 children (27.6%) in the first sub-group, 43 children (62.3%) in the second, and seven (10.1%) in the third sub-group [Table 4.10].

Table 4.10 *Groups of children whose scores increased and those whose scores decreased - Polish*

	Frequency	Percentage (3 groups)
Children who deteriorated	43	62.3
Children who improved	19	27.6
Children whose results remained the same	7	10.1
Total	69	100.0

These results indicate that around 72% of children did not improve their Polish language skills over the period between T1 and T2. The scores of around 62% of the children were lower at Time 2 than Time 1.

A test of correlation was conducted to find out whether there was a discrepancy between the children's scores at T1 and T2. The test indicated that there was a positive correlation in the results of the children at T1 and T2 ($R = 0.676$, $p < 0.01$).

5.3 L1 (Polish) and L2 (English) relationship

To compare the development of both languages a change score was created for each; then a paired samples t-test showed that the difference in change score between T1 and T2 for the two languages was highly significant ($t(68) = -12.23$, $p < 0.01$). The mean difference between the English language results between T1 and T2 was 20.76 (SD = 14.27) and both scales Grammar and Information scores increased over time. The mean difference between the Polish language results between T1 and T2 was -0.52 (SD = 1.32) indicating that the group's overall results deteriorated during a year and a half between T1 and T2. The mean difference between T1 and T2 was -

0.49 for Receptive Language scores and -0.31 for Productive Languages scores. In summary, the direction of development of the children's L1 was significantly different than the direction of development of their L2. While progress occurred in their English language skills, their Polish language competence deteriorated. The progress applied to both test components. In regard to the Polish test scores, while at T1 the children's scores were between 3rd and 4th STen, at T2 they were around 3rd STen. This difference applied to both scales: Productive Language and Receptive Language scale.

The development of the two languages has been examined separately so far. However, the possibility that their development was linked also needed to be explored (Bialystok 2001; Cummins 1987; Flege and Fletcher 1992; Geva and Genesee 2006), so further analysis was conducted to explore whether there was a relationship between improvement on one language and attrition on the other. A test of correlation was conducted on the total scores for English and for Polish. It found a significant negative correlation between the children's English and Polish language total scores at T1 ($R = -0.30, p < 0.01$). There was also a negative correlation between the children's Polish results at T2 and their English language results at T1 ($R = -0.24, p < 0.05$). However, there was no correlation between the children's Total Polish and English language scores at T2 ($R = -0.014, p = 0.91$).

The relationship between the Polish change score and the English change score was not statistically significant ($R = -0.088, p = 0.47$). This implies that the rate of L1 change and the rate of L2 change were not associated.

The above analyses answer Research Question (1): "What is the direction and rate of development of L2 (English) and L1 (Polish) among the 4 to 6-year-old children of Polish migrants to Scotland?". The direction and rate of development of L2, English is positive and fast. During the time of the study the children's L2 competence showed rapid progress. By contrast, the development of L1, Polish was negative. Although this attrition progressed at a relatively slow rate, the children's native language skills deteriorated significantly. To sum up, while the English language scores improved over time, the Polish language scores declined.

5.4 Results regarding the children's age

Age is an acknowledged and important factor in language development, in application to both L1 (Clark 1995; Ervin 1980) and L2 (Bialystok 2001; Paradis 2009; Zhang and Slaughter-Dafoe 2009). In L1 acquisition, the language development progresses with age (Clark 1995; Bialystok 2001), in L2 acquisition this relationship is more complex as the age at the moment of introducing the second language plays an important role in the process of learning (Flege and Fletcher 1992; Johnson and Newport 1989).

Since the age of children who participated in the research ranged from 4 years and 8 months to 6 years and 3 months (at T1), an analysis explored whether there was any influence of this factor on the L1 and L2 development pattern. A correlation test was also carried out with the use of the primary interval variable. There was no significant correlation found between the children's Polish language scores (their total scores and their change scores) and their age at any time. However, the analysis of the English language scores showed that there was a positive correlation between the children's age and their English results: older children scored higher than their younger peers. A Pearson's correlation test demonstrated that this association was stronger at T1 ($R = 0.39, p < 0.01$), when the participants were just beginning school than at T2 ($R = 0.27, p < 0.05$) [Tables 4.11 and 4.12].

Table 4.11 *Children's age and their English scores (all components) at T1*

		English Total score (T1)	English Grammar score (T1)	English Information score (T1)
Child's age at T1	Pearson R	0.39**	0.41**	0.36**
	p (2-tailed)	0.01	0.01	0.02
	N	69	69	69

**correlation is significant at the 0.01 level (2-tailed)

Table 4.12 *Children's age and their English scores (all components) at T2*

		English Total score (T2)	English Grammar score (T2)	English Information score (T2)
Child's age at T2	Pearson R	0.27*	0.30*	0.21
	p (2-tailed)	0.03	0.01	0.08
	N	69	69	69

* correlation is significant at the 0.05 level (2-tailed)

Another step was to investigate whether the children's English language progress over time was linked to their age using the children's change scores (the difference between T1 and T2). It found a negative correlation between age and change scores: the younger pupils tended to show greater gains in their L2 over time than the older ones ($R = -0.28$, $p < 0.05$).

There were three children attending P2 at the time of the assessments at T1 and P3 at the time of the assessment at T2, but even when they were removed from the sample the tendency for older children to receive better scores was still evident. When the sample was limited to the children who at T1 attended P1 ($N = 66$), the correlation between their age and their English scores was, like before, stronger at T1 and present in the Grammar scale of the test.

In order to explore whether there were differences in age between girls and boys that could confound the gender analysis a correlation between children's ages and their scores as a function of their gender was also analysed. At T1, there was a positive correlation between all children's (boys and girls) age and their English scores. At T2, the significant correlation between age and results only existed for the girls ($R=0.33$, $p < 0.05$).

6. Summary

6.1 English and Polish language development

The main findings of the study described in this chapter concern the children's English and Polish development. The study analysis indicated that the children's language development in Polish and English differed markedly. The children's English

language test scores between T1 and T2 improved significantly. Their scores' mean at T2 was more than twice as high as at T1 ($M = 23.90$ and $M = 44.66$ respectively).

In contrast, while the children's English language scores increased over time, the children's Polish scores deteriorated. These findings are contrary to the assumption that both L1 and L2 would progress and undoubtedly confirm the suspicion that the development of the children's Polish is slower than that of L2. This might indicate that the process of L1 attrition has already started.

The mean of their scores at T1 was 3.39 while at T2 it was 2.87. This was lower than would be expected for children of their age at T1. Their standardized scores at T2 were lower than their scores at T1, i.e. the difference between the norm and achieved results at T2 was even greater than this difference at T1. That is, the children's results deteriorated in relation to their development.

A detailed analysis revealed that at both T1 and T2 the children's English language test Information scores were higher than their Grammar scores. Both of these scales' scores increased significantly with time. In the case of the Polish, at both T1 and T2 the children's Polish Receptive language scores were higher than their Polish Productive language scores. The majority of children who were better at productive language tasks at T1 were better at productive language tasks at T2. This correlation was much stronger than the correlation between the children's Receptive Language scores at T1 and T2 where there was more variation between the children's two tests. Nonetheless, both these scales' scores declined between T1 and T2.

At T1, there was a negative correlation between the children's results in Polish and English ($R = -0.30$, $p < 0.05$). However, there was no correlation between the children's scores in the two languages at T2.

For the children whose fathers were not Polish, the difference between their scores and the scores of the other children did not impact on their Polish language skills. Having an English-speaking father however did make a difference to their English language scores both at T1 at T2. It is worth noting that at T2 the gap in terms of the English competence between them and the other children was much smaller than at T1.

6.2 Influence of age and gender

In terms of the children's age, again there was a difference between their English and Polish language development. In Polish, there was no relationship between language scores and age. However, there was a significant positive correlation between the children's age and the children's English test scores. This correlation existed at both T1 and T2, but it was stronger at T1 ($R = 0.39, p < 0.01$) than at T2 ($R = 0.27, p < 0.05$).

In regard to the children's gender, there was no statistical difference between boys and girls in either English or Polish at T1 or T2.

7. Discussion

7.1 English language

7.1.1 Performance and progress

Although their language skills at the beginning of the testing were poor, the children made significant progress between T1 and T2.

The children's scores on the Grammar scale were consistently lower than their scores on the Information scales. Obtaining a high Grammar score required knowledge of the English grammar rules. Obtaining a high Information score required knowledge of some English vocabulary. Most children were able to communicate somehow what they could see on the pictures even with poor or non-existing grammar at T1. These findings are in line with the theory of language learning (Strelau 2005) and the children's results reflect their natural learning pattern. Because the level of the children's grammar was low at T1, between T1 and T2 their Grammar scores improved slightly more than their Information scores.

The difference between the children who spoke some English at home (whose fathers were users of English) and the children whose parents were both Polish was not significant. This could possibly be explained through the fact that all these children's mothers were Polish and in all cases they were their main carers. The progress of children with fathers who were not Polish was slightly smaller than the

progress of other children as they were at a different point of their English acquisition curve (DeKayser 1997) than their peers whose parents were both Polish. The findings regarding the marked progress of children whose initial competence was poor or non-existent are consistent with the learning curve theory (DeKayser 1997; Jaspaert et al. 1986).

Nonetheless, the general improvement of the children's English language competence is evident, and the results demonstrate that there has been a notable development in this area. A year and a half in mainstream education made a big difference to the children's L2 skills suggesting that the input is key to language improvement.

In the light of these findings it might be useful to keep in mind that school is a powerful institution and that the ability to communicate within its environment is something that the majority of children are going to acquire. The children's experiences at school override their immersion in the L1 environment at home. Therefore, although any language exposure is beneficial, migrant families should not be encouraged to "work on" the children's L2, provide extra L2 input or use it at home.

7.1.2 Age

In terms of the children's age there was a correlation between their biological age and their English scores, particularly at T1. Older children scored better than younger children on their Information and Grammar scale at T1 and at T2 they scored better on the Grammar scale. In the case of L2 acquisition, the children's English language development was not far from what would be expected in the population. The older the children become, the better their ability to express themselves and their ability to use English in a grammatically correct manner (Aitchison 1998; Kielar-Turska 2000; Strelau 2005; Tomasello 2000). However, it needs to be pointed out that when the study participants were starting school, older children might have had more English language input. Placing children in some sort of formal childcare environment as soon as they become eligible could possibly play a role in explaining this finding. It is possible that children who were born earlier had received more L2 input therefore

they were the pupils who did better at the onset of their mainstream education. The question of whether older children had received more L2 exposure will be re-visited in relation to the children's pre-school exposure to English in Chapter 6.

In regard to the progress made between T1 and T2, younger children improved more than older pupils which is consistent with the learning curve theory (DeKayser 1997; Jaspaert et al. 1986). At the beginning of their school education younger children obtained lower scores than older children, but since their progress was more rapid, the difference between younger and older children at T2 was not as evident as at T1. In summary, older children entered school with more English language experience and their scores were higher but this effect was mitigated by more intensive progress in the English of younger children. As a result age did not play such an important role at T2.

7.1.3 Gender

In the study that was conducted in order to establish original norms for the Renfrew test, the scores of girls were slightly higher than those of boys (Renfrew, 1997) but the difference was not statistically significant. The outcome was similar in the current study - although the girls achieved slightly better results than boys, no gender differences were evident in statistical analyses.

These results support some findings of no gender difference in language acquisition (Eriksson and Berglund 1999; Fenson et al. 1994; Hyde and Linn 1988), but they contradict others (Kern 2007). It has to be noted that the group that participated in the current study was slightly different than those from other studies. They might have been influenced by some factors absent in previous research. For example, for children who were not born in Scotland but arrived there later, the experience of changing the environment could be a factor.

7.2 Polish language

7.2.1 Performance

The children's general scores in both L1 and L2 were below the children's age norm. These findings are consistent with results of the previous studies (Haman et al.

2017; Miękisz et al. 2016). This is a reflection of the fact that the children who participated in the research do not live in a monolingual environment. Although around 40% of parents only speak Polish so they never use English while speaking to their children, the children's level of L1 skills is low. The results of their Polish language tests suggest that 5-year-old children who are at the beginning of their formal education are already linguistically disadvantaged in their native language, in comparison to their monolingual peers who live in Poland. The mean of the assessed children's standardized scores was 3.39, while the value of approximately 5 would be expected from their counterparts living in a completely monolingual environment.

A detailed analysis of the results showed that in the productive language skills sub-tests the children obtained slightly lower scores than in the sub-tests measuring their receptive language competence. These results align with the results of studies (Fraser, Bellugi, and Brown 1963; Kielar-Turska 2011) indicating that it is easier to recognize linguistic stimuli than to recollect and actively use in an appropriate way relevant terms from one's vocabulary. However, there were a few children whose Receptive Language scores were lower than their Productive Language scores. This could be attributed to their temperament or attention span. Some of those children were not able to concentrate for long enough during the part of the test that was assessing their understanding, possibly not finding it attractive enough. On the other hand, keeping them focused on their task was easier when they were taking an active part in it. Another explanation could be that they were not very interested in answering questions and their preference was to introduce their own ideas. Yet another possible reason for these results could be that those children felt better performing a less structured task or a task that they considered a bigger challenge.

The results for Polish at T1 were lower than what was expected it has to be noted that using another measure might have led to different results. As mentioned before [Section 4.1.2 of Chapter 3], the Polish test was not adapted to specific circumstances of children living abroad because before starting school, due to the characteristics of the Polish community, the children would be using mainly L1, therefore they would

be able to learn about the Polish culture. Repeating this study with the use of another tool would be recommended.

7.2.2 Progress

The direction and rate of the children's first language development was very different than the way their L2 was developing. In relation to the difference in the children's scores between their first and second Polish test, their progress was not adequate to their age. This was reflected in the children's standardized results which deteriorated in relation to their age. Taking into account the children's age norm, their performance at T2 was worse than at T1, when they were just starting school. These results demonstrate that, between T1 and T2 the children's Polish language competence suffered. This might indicate a possible existence of an attrition pattern for the majority of the children (around 62% of the participants). Around 10% of children did not make any progress at Polish and only around 27% improved their L1 scores.

The Polish language deterioration occurred in both the children's receptive and productive language proficiency. Interestingly, the mean difference between T1 and T2 in the case of their productive language competence was smaller than in the case of their receptive language competence. This might suggest that attrition regarding the active use of a language progresses at a slower rate than attrition regarding its understanding. This could also be explained through the assessment's scales used in the study as the Receptive Language scale contained more culture-specific nouns with which children were familiar at T1, but which they might have not remembered at T2.

This study is consistent with the findings of authors who suggest that migrant children are at a great risk of losing their primary language (Clark 2012; Cummins 1979; Duursma et al. 2007; Mancilla-Martinez and Vagh 2013; Skutnabb-Kangas and Taikomaa 1976; Wong-Fillmore 1991). It indicates that L1 of Polish migrant children is not progressing as it should if these children are to be called bilingual. There are numerous benefits of maintaining L1 and becoming a bilingual. These advantages of

bilingualism have a cognitive, affective, pragmatic, and even health-related nature (Bialystok, Abutalebi, Bak, Burke, and Kroll 2016).

It is important to prevent L1 from disappearing from the point of view of an interested individual and from the point of view of their close and extended family. Maintaining native language is crucial for keeping one's cultural identity (Bialystok 2001; Durkin 2004) and valuing and understanding of their heritage (Siraj-Blatchford and Clarke 2000; Wong-Fillmore 1991).

The outcome of the current study indicate that families should encourage children to use their first language at every opportunity as it is disadvantaged in relation to their second language as this research highlighted.

Educators should be aware of what is the nature of the problem with bilingualism and increase this awareness among parents.

However, a group of the children (27%) did improve their L2 and the next chapters will show whether this group had any characteristics that could not be attributed to the other groups. Although at the start they obtained lower scores than their monolingual peers, their Polish language proficiency between T1 and T2 did increase. Language input and parental attitudes could be two of the reasons for the variation in the sample and they will be examined in the subsequent chapters which will consider these two factors in detail. Some demographic factors possibly linked to the language attrition also will be explored in the next two chapters.

7.2.3 Age and gender

In terms of age, once again, the association between variables was reversed in the case of the children's L1. Unlike in the case of English, there was no significant correlation between the children's age and their Polish language results. The fact that their language skills did not reflect their age might indicate that they do not follow the typical path of language acquisition in their native language. The change in the children's development is atypical as there is no positive association between their age and their linguistic development.

In regard to the progress in L1 over time, there was no correlation between the children's age and the change in their scores between T1 and T2. However, it should

be kept in mind that the age range in the study was relatively small and a study with children with more variation in age results might be more conspicuous.

In terms of gender, this study's results do not fit with literature indicating that gender is an important factor in L1 acquisition in children. However, they confirm findings which suggest that although there is a consistent difference in the rate of language acquisition between girls and boys, this variation is marginal (Hyde and Linn 1988; Hyde 2005).

Although the difference between genders in their L1 and L2 acquisition was not statistically significant, there was a significant difference between boys and girls when it came to factors affecting their language acquisition [see Section 3.3.2.2 in Chapter 6].

7.3 Relationship between English and Polish

The most notable aspect of the children's assessments results was learning that when they started school their L2 improved significantly at the same time when their native language deteriorated. This could suggest that until children enter mainstream education their languages develop in a manner depending on their language exposure (Baetens Beardsmore 1986; Bornstein 1998; Grosjean 2010), however after they start school, their institutionalised learning (and their response to it) becomes such a powerful tool (Benner and Crosnoe 2011) that it overrules the linguistic input from other sources. This could also be linked to the amount of time the children spend in schools and the fact that the amount of their time they spend elsewhere is very limited during a school week.

These results are supported by the finding that the children's age made a difference for one language but not the other. This indicates that in L2 the children developed their language competence in a natural way, i.e. the older they become, the more skills they acquire. However, when their L1 was considered, there was no association between their age and their learning. This suggests that the language attrition has already started.

There was a negative correlation between the Polish and English language results at T1. There could be a number of reasons for this. One explanation is that prior to starting school children who received high scores in Polish had spent more time using it (and there was not so much time left for English) and children who achieved high scores in English had spent more time being exposed to English (and there was not so much time left to Polish). This speculation is not equal with stating that the children are not capable of being good at both L1 and L2. The point is that children's time is limited, their day quite short and there is a certain number of activities that can be squeezed into their pre-school schedule. Their linguistic input is determined by what they do during their day and what language they use during these activities. This would confirm Baetens Beardsmore's (1986) approach that one's language functioning is tightly linked to their activities and experiences. Typically, Polish pre-school children in Scotland spend their days either in the care of their parent (speaking Polish) or in formal care setting (speaking English) and there is not much time to use the other language. The linguistic input will be explored in Chapter 6. Other potential reasons for the negative correlation between L1 and L2: parental cultural orientation and language attitudes will be considered in Chapter 5.

However, the negative correlation between children's L1 and L2 proficiency disappeared somewhere between T1 and T2 and by the time of the second assessment there was no significant association between the children's English and Polish language skills. It may be concluded that attending a school where only English was spoken gradually changed the structure of their linguistic practices. Moreover, the children's school education must have overridden their home-based language exposure.

There was a negative correlation between the children's Polish scores at T2 and their English test scores at T1 ($R = -0.24, p < 0.05$). Children who were better at English at T1, achieved lower scores in the Polish assessment at T2 and children whose English scores at T1 were low, achieved higher scores in their Polish test at T2. This indicates that the year and a half between T1 and T2 was not enough time to completely "switch" children's language dominance.

Nonetheless, regardless of this association there was no link between the children's L1 and L2 observed when their language competence was tested at the end of the study. These results are also very important from the point of view of mutual L1 and L2 influence and indicate that there is no interference from L1 affecting L2 or from L2 affecting L1. These findings are consistent with the results of other studies carried out on a very similar population – Polish children whose parents migrated to the UK and Ireland (Haman et al. 2017; Miękisz et al. 2016). The language examined in both studies were Polish and English and in one, the participants' ages were very similar to those of the children in the current research. Both of the above-mentioned studies detected some sort of interference between L1 and L2. In the first study (Miękisz et al. 2016) the use of L2 had a negative impact on children's L1 vocabulary scores. In the other study (Haman et al. 2017) the L2 exposure affected negatively the children's productive L1 grammar scores. The main difference with the current study was that here the children were tested in two different time points and the disappearance of this negative correlation between the two languages was observed. It is possible that the negative correlation between L1 and L2 exists only until learners reach a certain age. Another, more practical explanation could be that older children are under more linguistic influences that quickly "get out of control", i.e. their social environment becomes more complex and it is no longer possible to disentangle and separate their L1 and L2. However, these findings suggest that L1 and L2 language acquisition is a complex system rather than a process based on choice of only one language.

This chapter answered Research Question (1) by presenting the language development in L1 and L2 in Polish migrant children and the effects of age and gender.

The following chapters will answer Research Questions (2), (3), and (4). Chapter 5 will consider the influence of parental factors on the children's language attrition and some other sociodemographic variables on the children's language acquisition. The linguistic input is considered in Chapter 6.

CHAPTER 5

SOCIAL FACTORS

1. Introduction

The previous chapter reported the outcome of the research in regard to the children's language scores in Polish and English and their change over the period between the first and the second time of data collection (T1 and T2), answering Research Question (1) - "What is the rate and direction of development of L1 (Polish) and L2 (English) among the 4 to 6 year-old-children of Polish migrants to Scotland?". It also considered the influence of the children's age and gender, on their progress in L1 and L2 acquisition. Results showed that there was a deterioration in the children's native language (Polish) and a significant improvement in their second language (English). There is the need to examine factors that might play a role in the outcomes reported in Chapter 4. This chapter seeks to explain those finding by considering the influence of social, cultural and emotional factors.

The data presented in this part of the thesis was collected from the questionnaires completed by the parents. Sixty-nine children took part in the assessments and the parents of 53 of them returned the questionnaires. This chapter answers two Research Questions on the socio-cultural theme of this thesis: First, Research Question (2) that focuses on parental elements - "In 4 to 6-year-old children of Polish migrants to Scotland is acquisition of L2 and maintenance of L1 associated with: a) parents' cultural orientation, b) parental language attitudes, c) demographic factors?". The focus then moves to the children with Research Question (3) - "What is the link between L2/L1 acquisition/maintenance and the socio-emotional functioning of a child?". This chapter first provides an overview of information regarding families that participated in the study and gives a summary of correlations regarding the demographic factors (research questions (2a)). Research questions (2a), (2b) and (3) are considered in turn in separate sections which report on data analyses and results. Section 6 contains regression analyses with the use of variables presented in previous sections.

It was expected that some demographic variables would affect significantly the children's test results as these factors, for example parental education and the time spent in a host country, are already known to play a role in children's language development.

In order to learn about the parents' cultural orientations (Research Questions 2a), the Acculturation Questionnaire was completed by the parents and their acculturation and enculturation scores were measured. It was predicted that the children of parents with higher acculturation scores (i.e. high positivity towards mainstream culture) would achieve higher scores in English language than the children of parents with lower acculturation scores, and the children of parents with higher enculturation scores (i.e. preference for heritage culture) would achieve higher scores in Polish language than the children of parents who scored lower on this scale.

In the same vein (Research Question 2b), the children of parents with higher scores on the language maintenance attitude scale would have better results in Polish than the children of parents with lower scores on this scale, and the children of parents with higher scores on the language subtraction attitude scale would have better results in English than the children of parents with lower scores on this scale. The children of parents bilingually oriented were expected to obtain similar scores in both languages.

As regards the Research Question 2c, the correlation between the time spent in Scotland by the child and their test scores was expected to be a positive one in the case of English and a negative one in the case of Polish. However, the place of birth factor was not expected to play a major part; the time spent in Scotland was expected to have more weight than the fact of being born into a certain language environment. The correlation between the parents' education and the children's test scores was expected to be a positive one in both L1 and L2.

In regard to Research Question (3) and the links between the L1 and L2 acquisition and the children's socio-emotional functioning (measured with the use of the Strength and Difficulties Questionnaire), in accordance with the suggestions of Berry

(Berry 2005; Berry et al. 2006), it was expected that the correlation between socio-emotional functioning and language outcomes would be reciprocal: a balance between L1 and L2 scores would be linked to better socio-emotional functioning of the children; such a balance would be an advantage in regard to the children's school adjustment, and the children's better socio-emotional functioning would contribute to better linguistic outcomes. Parental attitudes are the main focus of this chapter, but the analysis will start with the demographic aspects to provide information regarding family background.

2. Family characteristics

The parents' Family and Language Attitude questionnaire collected information on a range of family characteristics. The demographic factors included in further analyses in this chapter are those regarding the parents and the family that were significantly correlated with the children's language scores (the child's place of birth, time in Scotland, parents' education level). All the demographic information was obtained from the Family, Language and Attitudes Questionnaire completed by the parents at T2. Participation response return rate for the study: 281 consent forms were distributed and 87 were returned. This gave a return rate of 30.9% which is lower than a typical response rate among general public members. However, once committed to participating in the research, few families left the study and as a result the attrition rate is relatively low [see Section 6.2.2 and Table 3.9 in Chapter 3].

After all data were collected, they were coded with the use of single-transfer coding (Robson 1993). The list of all the categorical and continuous variables can be found in Appendix 20. Given the large number of variables some were merged creating composites. For example, mothers' and fathers' education level, employment status, age and languages were measured separately. However, in the final results they were combined under "parents" variables unless treated separately for a specific reason.

The questionnaire instructions included a request for “the main carer” to complete the form indicating that this should be the person who spent most time with the child. Out of 53 respondents, 3 indicated that they were single parents. Two gave no information about their absent partner, the third answered the question regarding their ex-partner’s education level. At T1 out of 69 main carers who completed the SDQ questionnaire, 57 identified their education level. They comprised 52 (91.5%) mothers and 5 (8.8%) fathers. At T2 out of all 53 returned questionnaires, 49 (92.5%) were completed by mothers and 4 by fathers (7.5%). Two fathers completed them at both: T1 and T2. Thus, the information about 103 parents in total was obtained. However, the sample numbers for particular statistics may differ as there was some selectively missing information in some respondents’ questionnaires.

Demographic data that generated statistically significant findings in relation to children’s language scores: children’s place of birth, parents’ age and education level, and families’ time in Scotland are presented in Table 5.1 below. Full information on the remaining variables: parents’ language, household composition, and the parents’ socioeconomical status can be found in Appendix 20.

Table 5.1 *Demographic summary table*

Variable	Mean	SD	Range
Parents			
1. Age mothers	34.3	3.57	26-40 years
2. Age fathers	37.4	3.84	27-49 years
3. Education mothers *	14.98	2.53	10-17 years
4. Education fathers *	14.07	2.85	10-17 years
Families’ time in Scotland **	9.13	2.54	3 years – 12 years 7 months
Children			
1.Children’s time in Scotland **	6.37	1.10	2 years 8 months – 7 years 9 months
2.Child’s place of birth	43 (81.1%) born in Scotland 9 (17%) born in Poland 1 (1.9%) born in another country		

* in years; ** in years and months

A series of correlations was conducted to explore relationships between the main demographic factors and children’s language scores in L1 and L2. A table of correlations below summarizes the findings [Table 5.2]. In order to control for

multiple comparisons Benjamini-Hochberg (1995) correction was applied to t-tests and correlations in this chapter.

Table 5.2 *A summary of correlations between the demographic factors and children's language scores*

Variable	Total English score T1	Total English score T2	Change score English	Total Polish score T1	Total Polish score T2	Change score Polish
1. Age parents	0.18	0.40**	0.15	-0.04	-0.05	-0.01
2. Age mothers	0.12	0.34*	0.13	- 0.07	0.17	0.10
3. Age fathers	0.02	0.20	0.15	- 0.11	- 0.13	-0.13
4. Education parents	0.21	0.15	-0.13	0.11	0.32*	0.24
5. Education mothers	0.14	-0.05	-0.22	-0.35	0.25	0.34*
6. Education fathers	0.24	0.30*	-0.03	-0.02	0.14	0.18
7. Families' time in Scotland	0.30*	0.34*	-0.05	-0.28*	-0.13	0.20
8. Children's time in Scotland	0.21	0.25	-0.03	-0.23	-0.09	0.17

* $p < 0.05$, ** $p < 0.01$

An interesting relationship was found between mothers' education level and their children progress in L1. The children of more educated mothers were characterized by higher maintenance of Polish. This relationship is explored in detail in Section 6.2.2 of this chapter.

2.1 Children's place of birth

Most children were born in Scotland and some in Poland [see Table 5.1]. However, the majority of their parents advised that those children had spent most of their lives in Scotland.

An independent t-test showed that the children born in Poland received higher Polish total scores at Time 1 than the children born in Scotland or other English-speaking countries ($t = 2.35$, $p < 0.05$).

2.2 Parents' education level

Thirty-one (60.4%) mothers had higher education, such as a university or polytechnic, 20 (37.7%) had secondary/technical/college education, and one had a

vocational qualification (1.9%). Twenty-four fathers (47.1%) had completed higher education, 20 (39.2%) had secondary/technical/college education, and 7 (13.7%) had vocational qualifications [Appendix 20]. A chi-squared test was carried out and the difference between the education levels of fathers and mothers was not statistically significant.

2.3 Families' time in Scotland

The time children had spent in the country differed from the time their parents had lived in Scotland [Table 5.1]. This shows that the children who have spent the shortest period of time (2 years and 4 months) in the country have been there since around the time they learned to talk. However, the pattern of these data overlaps with the pattern of the length of time their parents have lived in Scotland (Pearson's correlation = 0.83, $p < 0.01$). This information suggests that most parents do not separate from their children when they become migrants.

3. Cultural orientation of parents

3.1 Cultural orientation data

To answer Research Question (2a) and explore the link between children's L1 and L2 scores and parental cultural orientation, parents' acculturation to the dominant culture and their enculturation were explored, followed by exploring their links to children's language scores [Section 3.2]. Descriptive statistics include a comparison of the scales to establish which culture parents preferred, and a correlation test to find out whether these two orientations were mutually exclusive.

Findings indicated that the heritage cultural orientation was much stronger among the parents than the mainstream one [Table 5.3]. A t-test indicated that the difference in means was highly significant ($t(1,52) = 8.51$, $p < 0.01$). However, although the Heritage scale scores were much higher, there was a significant positive correlation between the Mainstream and Heritage scales of the questionnaire ($R = 0.35$, $p < 0.05$).

Table 5.3 *Means, SDs and ranges for the Heritage and Mainstream scales of the Acculturation Questionnaire*

	N	Mean	SD	Min.	Max.
Heritage cultural orientation	53	70.38	11.06	41	87
Mainstream cultural orientation	53	55.94	10.58	29	79

In order to investigate if Berry's (2005) model based on the level of maintenance of heritage culture and identity could be applied to this study's results, the scores of the two scales (acculturation and enculturation) were divided into an upper and lower half with the use of a median. According to Berry's model there were four cultural orientations: assimilation (low level of heritage culture and high level of mainstream culture), integration (high level of heritage culture and high level of mainstream culture), separation (high level of heritage culture and low level of mainstream culture), and marginalization (low level of heritage culture and low level of mainstream culture). Thereby two groups were created for each measure (lower versus higher heritage orientation and lower versus higher mainstream orientation). The results of the analysis are presented below [Table 5.4].

Table 5.4 *The number of parents with lower and higher scores on Heritage and Mainstream orientation*

	Frequency	Percent
Parents who obtained lower scores (heritage scale)	25	47.2
Parents who obtained higher scores (heritage scale)	28	52.8
Total	53	100.0
Parents who obtained lower scores (mainstream scale)	26	49.1
Parents who obtained higher scores (mainstream scale)	27	50.9
Total	53	100.0

3.2 The cultural orientation and language test scores (L1 and L2)

3.2.1 English language

In regard to the children's English language scores, it was predicted that parents' mainstream cultural orientation scores would be significantly positively correlated with their children's English test scores, as the parents with the preference for the host country could convey their attitudes to their children, encouraging them to learn the L2. However, a test of correlation found no significant correlation between

children's Total test scores at T1 and T2 and their parents' Acculturation Questionnaire scores.

For further analysis the sample was divided according to the children's results into those whose scores increased and those whose scores decreased. There were 5 children (9.4%) whose results deteriorated and 48 children (90.6%) whose results improved. However, a t-test showed no significant relationships. This split is different than the one in Section 5.1.3 of Chapter 4 because only children whose parents completed the questionnaires (N = 53) were taken into consideration in the current analysis [Table 5.4].

3.2.2 Polish language

The next step was to look at the L1, as like in the case of L2, the parents with the preference for their native culture and language could positively influence their children's L1 scores. However, again there was no significant correlation between the parents' heritage cultural orientations and the children's test total scores in Polish either at T1 or at T2. Further analysis was carried out and the sample consisting of the children of parents who completed the Acculturation Questionnaire (N = 52) was split into two: the child group whose Polish between T1 and T2 improved (15 children, 28.3 %), and the child group whose Polish did not improve (38 children, 71.7%). This was done in order to check whether the parents of the children whose L1 improved and those whose L1 deteriorated belong to any particular cultural orientation group. These groups are different than groups analysed previously [see Section 5.2.3 in Chapter 4] as now they only included the children whose parents completed the Acculturation Questionnaire.

After the split, the differences in means of parents' acculturation and enculturation scores were examined. An independent t-test was carried out between the two groups of children and there were no significant differences in the means of their parents' cultural orientation scales. Similar results were obtained when the scores of the children whose scores increased and the children whose scores fell were related to their parents' cultural orientations.

Again, in the case of Polish there was no significant relationship between the children's change score (T2-T1) and the parents' cultural orientation [Table 5.5].

Table 5.5 *A summary of correlations between the cultural orientations and language attitudes, and children's language scores*

Variable	Total English score T1	Total English score T2	Change score English	Total Polish score T1	Total Polish score T2	Change score Polish
1. Heritage orientation	-0.01	-0.24	-0.21	0.11	0.15	0.04
2. Mainstream orientation	-0.13	-0.06	0.11	0.01	0.06	0.05
3. Subtractive language attitude	-0.15	-0.09	0.09	-0.05	-0.02	0.04
4. Bilingual language attitude	-0.001	-0.24	-0.22	-0.09	-0.17	-0.09
5. Maintenance language attitude	0.01	-0.16	-0.16	-0.06	-0.14	-0.08

* $p < 0.05$, ** $p < 0.01$

There were some correlations between both the Mainstream and Heritage culture scores and demographic variables [Appendix 20]. There was also a correlation between the parents' cultural orientation and the children's engagement with a language, namely the Heritage scale was positively correlated with children's Polish language use ($R = 0.30$, $p < 0.05$). When the heritage cultural orientation was entered into a regression analysis with the mainstream orientation as another predictor, it was a significant predictor of the current use of language ($F(2,50) = 2.73$, $t = 2.32$, $p = 0.02$), explaining 9% of the variation in the language use [see Section 3.3.2 in Chapter 6].

3.2.3 Berry's four cultural orientations

In Berry's model (Berry et al. 2005) of migrant socio-cultural adaptation integration orientation was the only orientation associated with better psychological wellbeing. According to Berry et al. (2005) children brought up in families that adopted the bicultural orientation of integration are better adjusted and academically achieve more. Therefore, in order to explore whether parental cultural orientation had any influence on children's language scores as a categorical variable, the group of parents was split into four categories. As observed earlier in the chapter,

there was a positive correlation between parents' scores in the heritage enculturation scale and mainstream acculturation scale ($R = 0.35, p < 0.01$). High scores on the heritage scale were associated with high scores on the mainstream scale.

However, it was possible to create four groups of parents according to their paired scores on heritage and mainstream scales, with the use of a median: the respondents who scored high on the mainstream country culture scale and low on the heritage country scale (reflecting assimilation); those who scored low in acculturation and high in enculturation (reflecting separation); the respondents who received high scores on both scales (reflecting integration); and those who received low scores on both scales (reflecting marginalization) [Table 5.6].

Table 5.6 *Four cultural orientations created from Heritage and Mainstream scale scores*

	Frequency	Percent
Assimilation	12	23.1
Separation	17	32.7
Marginalization	11	21.2
Integration	12	23.1
Total	52	100.0

The groups were analysed with ANOVA for differences in their children's language change scores, as well as for their Polish and English language test scores at T1 and T2, but the mean differences between these groups were not statistically significant. The purpose of the next analysis was to investigate whether the group of integrated parents was in any way different in their influence on the children's language scores. In line with Berry's (2005) theory of integration, the whole group was split into parents who obtained high scores on both enculturation and acculturation scales (representing integration) and all the other categories. The data were re-analysed with the use of one-way ANOVA. Only the association between parental tendency to integration and their children's T2 English scores approached significance ($F(1,51) = 3.84, p < 0.056$).

4. Language attitudes

4.1 Language attitudes data

Another component of the parental questionnaire was the Family, Language and Attitude Questionnaire designed to answer Research Question (2b): “In 4 to 6-year-old children of Polish migrants to Scotland is acquisition of L2 and maintenance of L1 associated with parental language attitudes?”. It included the language attitude scale which had three sub-scales: Maintenance, Bilingual and Subtractive [see Section 4.2.3.3 in Chapter 3]. This part of the Questionnaire was completed by 54 respondents. The results are presented in Table 5.7.

Table 5.7 Means, SDs and ranges of parents' language attitude scores (subtractive, maintenance, bilingual)

	N	Mean	SD	Min.	Max.
Subtractive language attitude	54	4.17	1.50	0	8
Bilingual language attitude	54	12.78	2.77	0	15
Maintenance language attitude	54	13.76	2.54	0	15
N	54				

There were no significant differences between mothers and fathers in their scores on the scales. It was noted that the bilingual language attitude was significantly correlated with the maintenance language attitude ($R = 0.66, p < 0.01$) indicating that these two orientations do not exclude each other. Being in favour of maintaining their mother tongue did not prevent the respondents from supporting the idea of adding another language to their native one.

4.2 The language attitudes and language test scores (L1 and L2)

There was no significant association between the parental language attitudes and the children's language test scores at T1 or T2 either in Polish, or in English.

5. Children's socio-emotional functioning

5.1 Socio-emotional functioning data

The Strength and Difficulties Questionnaire was used as a measure of children's socio-emotional adjustment at Time 1 and Time 2. The SDQ comprises five scales – one Prosocial scale and four Difficulties scales. Each of them gives a continuous score out of 10. The first part of this section provides descriptive summaries of the data, the second – information on the results obtained with the use of tests of correlation.

In order to answer Research Question (3): "What is the link between L2/L1 acquisition/maintenance and the socio-emotional functioning of a child?" the children's Polish and English scores were analysed in relation to their SDQ scores.

At T1, 74 Strengths and Difficulties Questionnaires were distributed and 57 returned and analysed. At T2, out of 69 Questionnaires that were distributed, 53 were returned and analysed. Only 48 questionnaires were returned at both T1 and T2, therefore if a particular analysis was based on a difference between the SDQ results at T1 and T2, the sample consisted of 48 participants. At T1, 52 mothers and five fathers completed the questionnaire, and at T2, 49 mothers and four fathers did so. Six questionnaires were completed by different parents at T1 and at T2. The sample was analysed with and without them.

5.1.1 SDQ - Difficulties scale descriptive summary

At T1, the mean of the total problems scale was 8.35, at T2 the total problems scale mean was 7.72 [Table 5.8]. When the few children who were assessed by different parents at T1 and T2 were excluded from the analysis the results did not differ significantly from those of the whole sample (N = 57 and N = 53).

Table 5.8 *Means, SDs and ranges of the SDQ questionnaire at T1 and T2 for the total Difficulties scale*

	N	Mean	SD	Min.	Max.
Socio-emotional functioning: total problems score (T1)	57	8.35	4.39	1	18
Socio-emotional functioning: total problems score (T2)	53	7.72	4.68	1	23

The SDQ difficulties part consisted of the following four sub-scales: Hyperactivity, Peers relations, Emotions, and Behaviour. The mean of the Hyperactivity sub-scale score was the highest at both T1) and T2. The results regarding the Behaviour, Peer relations and Emotions sub-scales are presented in Tables 5.9 and 5.10. There were no statistical differences between SDQ scores at T1 and T2.

Table 5.9 Means, SDs and range for the SDQ questionnaire's four Difficulties sub-scales at T1

	N	Mean	SD	Min.	Max.
Socio-emotional functioning: hyperactivity (T1)	57	3.77	2.22	0	8
Socio-emotional functioning: behaviour (T1)	57	1.53	1.25	0	5
Socio-emotional functioning: peers (T1)	57	1.32	1.49	0	5
Socio-emotional functioning: emotions (T1)	57	1.74	1.65	0	6

Table 5.10 Means, SDs and range for the SDQ questionnaire's four Difficulties sub-scales at T2

	N	Mean	SD	Min.	Max.
Socio-emotional functioning: hyperactivity (T2)	53	3.60	2.30	0	10
Socio-emotional functioning: behaviour (T2)	53	1.60	1.44	0	5
Socio-emotional functioning: peers (T2)	53	0.96	1.07	0	4
Socio-emotional functioning: emotions (T2)	53	1.55	1.62	0	6

5.1.2 SDQ - Prosocial behaviour scale descriptive summary

The means of the SDQ's Prosocial behaviour scale are shown in Table 5.11.

Table 5.11 Scores of the prosocial SDQ scale

	N	Mean	SD	Min.	Max.
Socio-emotional functioning: prosocial (T1)	57	8.58	1.29	5	10
Socio-emotional functioning: prosocial (T2)	53	8.81	1.22	5	10

At T1, 26.3% children were allocated the maximum 10 points for being 'prosocial'. This percentage increased to 36.8% at T2.

5.2 The relationship between children's socio-emotional functioning and acquisition of L2/ maintenance of L1

To answer Research Question (3), tests of correlation were conducted. It was expected that lower, i.e. more positive SDQ scores would be positively associated with better language scores in both L1 and L2.

5.2.1 SDQ Difficulties scale

5.2.1.1 English language

There was no significant correlation between the English language scores at T1 and any of the difficulties' scales of the SDQ at the beginning of the school year. However, a significant, negative correlation between the English Information score at T2 and the Emotions scale score at T2 ($R = -0.31, p < 0.05$) was found. Children who obtained higher English Information scores were assessed as those who had fewer difficulties with their emotions.

In order to check whether emotional functioning is associated with L1 and L2 change score, the analysis was repeated with the use of the change score variable and there were no relationships observed.

5.2.1.2 Polish language

In order to check whether there was a link between the Polish language scores and the children's adjustment, a correlation between their SDQ and their L1 scores was examined. Additionally, the sample was also divided into three groups - children whose Polish language results improved between T1 and T2, children whose results stayed the same, and children whose Polish language results between T1 and T2 deteriorated. To check whether the fact of belonging to one of the groups had any effect on the change in the children's socio-emotional functioning an ANOVA across SDQ scores was conducted.

At T2, there was a significant negative correlation between the children's Emotions scale score (T2) and their Receptive Language score (T2) ($R = -0.34, p < 0.05$). The children who received higher Receptive Language scores were also likely to have fewer problems with their emotions [Table 5.12].

Table 5.12 *A summary of correlations between the children's SDQ scores and children's Polish language scores (T2)*

Variable	Total Polish score T1	Polish PR score T1	Polish REC score T1	Total Polish T2	Polish PR score T2	Polish REC score T2	Change score Polish
Difficulties total score T2	-0.17	-0.12	-0.28*	-0.12	-0.16	-0.11	0.07
1.Hyperactivity	-0.10	-0.10	-0.16	-0.02	-0.12	0.12	0.10
2.Behaviour	-0.12	-0.14	-0.12	-0.02	-0.15	0.06	0.12
3.Peers	-0.004	-0.03	-0.08	-0.04	0.009	-0.12	-0.04
4.Emotions	-0.23	-0.17	-0.34*	-0.09	-0.08	-0.14	0.17
Prosocial scale T2	0.15	0.22	0.13	0.19	0.29*	0.10	0.04

PR – Productive; REC – Receptive; * $p < 0.05$

In order to explore the change between the SDQ scores at T1 and T2, a socio-emotional functioning change score variable was created. A similar association was found when the change in socio-emotional functioning was analysed.

There was a correlation found between the Emotions scale change score and the children's Receptive Language score at T1 ($R = -0.31$, $p < 0.05$). The children with higher Receptive Language scores at T1 had stronger socio-functioning change scores indicating that they had fewer problems with emotions at T2 than at T1.

5.2.2. SDQ Prosocial behaviour scale

5.2.2.1 English language

Analysis showed that there was a significant correlation between the Prosocial behaviour change score and English Total score at T1 ($R = 0.30$, $p < 0.05$) and English Information score at T1 ($R = 0.32$, $p < 0.05$). Higher English Total score and Information score at T1 were both associated with the positive change in prosocial behaviour between T1 and T2.

5.2.2.2 Polish language

There was also a positive correlation between children's Prosocial behaviour score at T2 and their Productive Language score at T2 ($R = 0.29$, $p < 0.05$). Children who were assessed as more prosocial, received better Productive Language results.

5.3 Children's socio-emotional functioning and their parents' cultural orientation - correlations

5.3.1 Difficulties scale

The following correlations and analyses are presented because they align with Berry et al.'s (2006) findings suggesting that an integrational orientation in a family, i.e. high both acculturation and enculturation, is linked with mental well-being. The results of these analyses are presented in Table 5.13.

Table 5.13 *A summary of correlations between the children's SDQ scores and the parents' cultural orientation*

Cultural orientation	Difficulties	Hyperactivity	Behaviour	Peers	Emotions	Prosocial
Heritage orientation	-0.31*	-0.25	-0.30*	-0.13	-0.22	0.43**
Mainstream orientation	-0.33*	-0.38**	-0.21	-0.01	-0.35*	0.23

* $p < 0.05$; ** $p < 0.01$

There were some associations between the children's SDQ results and their parents' Acculturation Questionnaire scores, all of which occurred at T2. The heritage cultural orientation was negatively correlated with the total problems score ($R = -0.31, p < 0.05$). Higher parental heritage scores were linked to lower children's scores on the total difficulties SDQ scale. A detailed analysis indicated that heritage orientation was negatively correlated with the Behaviour sub-scale of the difficulties scale ($R = -0.30, p < 0.05$).

There were also links between the Mainstream scale scores and the children's SDQ results. The analysis indicated that the Mainstream cultural scale was also negatively correlated with the overall Difficulties SDQ score at T2 ($R = -0.33, p < 0.05$). Higher Mainstream scale scores of parents were associated with lower Difficulties scores of children. At T2, the Mainstream cultural orientation was also negatively correlated with the Hyperactivity sub-scale ($R = -0.37, p < 0.01$) and the Peer relations sub-scale ($R = -0.35, p < 0.05$). At T1, the mainstream orientation was negatively correlated with the Behaviour ($R = -0.38, p < 0.01$) and the Hyperactivity sub-scales of the SDQ scale ($R = -0.29, p < 0.05$). These relationships were followed up in a multiple regression

analysis reported in Section 6 of this chapter. At T1, the mainstream orientation was negatively correlated with the Behaviour scale ($R = -0.38, p < 0.01$). At T2, the mainstream cultural orientation was negatively correlated with the Peer relations sub-scale ($R = -0.35, p < 0.05$). It was also correlated with the Hyperactivity sub-scale at both T1 and T2 (at T1, the Pearson correlation was $-0.29, p < 0.05$, and at T2 the Pearson correlation was $-0.37, p < 0.01$).

These findings indicate that the children of parents who obtained high scores on either acculturation or on enculturation scales (regardless of what culture they preferred) had fewer problems with adjustment than the children of parents who received lower scores in the Acculturation Questionnaire. The results of the multiple regression analysis with the use of the heritage and mainstream orientation variables as predictors of the children's socio-emotional adjustment are presented in Section 6.3 of this chapter.

It was also noted that there was a strong correlation between the scores of difficulties scales at T1 and the same scales at T2 ($R = 0.41, p < 0.01$).

5.3.2 Prosocial behaviour scale

The SDQ's Prosocial behaviour scale scores at T1 and T2 were also highly correlated ($R = 0.35, p < 0.05$). Furthermore, there was a correlation between the heritage cultural orientation and the prosocial behaviour of the children at T2 ($R = 0.43, p < 0.01$). The high score on a Heritage scale of a parent was associated with the high score of a child on a Prosocial behaviour SDQ scale. Moreover, the heritage orientation of parents was correlated with the prosocial behaviour change score (the difference between T1 and T2 in children's functioning) ($R = 0.35, p < 0.05$). The children of parents with the higher heritage orientation received higher prosocial scale scores at T2 than at T1.

6. Multiple regression analyses with demographic and social factors

In order to examine the most important relationships in the study, and answer the research question, a number of multiple regression analyses were carried out. As part

of the initial analyses, the univariate distributions of variables were examined, and residuals checked. The data were investigated for multivariate outliers and for influential cases that would contribute disproportionately to the variance in the regression equation. Cook's distance was calculated for each model. The data were also checked for multicollinearity with the use of collinearity statistics such as the tolerance and VIF. Predicted relations were evaluated at 2-tail significance. Different predictors were used in the regression analysis of factors affecting English and Polish proficiency and progress, because early in the study it became evident that different factors affect L1 and L2 acquisition.

The choice of variables used with the next analyses was based on the research questions. In order to answer Research Question (2a) and (2b) ("In 4 to 6-year-old children of Polish migrants to Scotland is acquisition of L2 and maintenance of L1 associated with: a) parents' cultural orientation, b) parental language attitudes") more fully and be able to find out which variables are predictors of language acquisition and maintenance, regression analyses were carried out with the use of selected socio-demographic variables. The outcomes regarding this research question were analysed in the following order: English language progress, English language score, Polish language progress, Polish language score. A regression analysis was carried out with the use of parents' cultural orientations and education level as predictors of the children's change scores; the parents' language attitudes as predictors of the children's change scores; the children's age, family's time in Scotland, and parents' education as predictors of the children's scores (L2), and the children's place of birth, family's time in Scotland, and parents' education as predictors of the children's scores (L1). In regard to Research Question (3) ("What is the link between L2/L1 acquisition/maintenance and the socio-emotional functioning of a child?") regression analysis was carried out with the use of parents' cultural orientations as predictors of the children's socio-emotional problems and this choice was made in relation to previously obtained correlational information.

6.1 Selected socio-demographic variables as predictors of children's L2 scores and change scores (T2-T1)

6.1.1 Parents' cultural orientations as predictors of children's L2 change score (Research Question 2a)

All regression analyses below were carried out with the use of the forced entry method where all predictors are put in the model at once.

The first multiple regression analysis included the following predictors: parents' heritage cultural orientation and parents' mainstream cultural orientation. The children's English change score was the dependant variable. Figure 5.1 illustrates the summary of this regression analysis investigation.

	R ²	Final β	$p <$	VIF	Tolerance statistics
English change score	0.08				
Parents' heritage orientation		-0.28	0.06	1.14	0.88
Parents' mainstream orientation		0.20	0.17	1.14	0.88

Figure 5.1 Parents' heritage and mainstream cultural orientation as predictors of children's L2 change score

These two predictors (mainstream cultural orientation and heritage cultural orientation) explained around 8% of the variation in English change score ($R^2 = 0.08$).

The ANOVA analysis showed that F-ratio was: 2.27 for parents' heritage orientation and 2.14 for parents' heritage and mainstream orientation.

The multicollinearity check indicated that all VIF values were slightly above 1.0 and the tolerance statistics was all above 0.2, therefore there was no multicollinearity within the data. This check was carried out for all the analyses.

6.1.2 Parents' language attitudes as predictors of children's L2 change score (Research Question 2b)

In the model with the use of the parents' language attitudes [Figure 5.4] there were no significant correlations between the predictors and the dependant variable (English change score).

	R ²	Final β	$p <$	VIF	Tolerance statistics
English change score	0.06				
Parents' subtractive attitude		0.11	0.43	1.01	0.98
Parents' bilingual attitude		-0.20	0.28	1.76	0.57
Parents' maintenance attitude		-0.04	0.83	1.78	0.56

Figure 5.2 Parents' language attitudes as predictors of children's L2 progress

The subtractive, bilingual and maintenance attitudes contributed to around 6% of the variation ($R^2 = 0.06$). The ANOVA analysis showed that all F-ratio values were smaller than 1 and none of them made a significant contribution to the model.

6.1.3 Children's age, family time in Scotland, and parents' education as predictors of children's L2 score (Research Question 2c)

Additionally, a regression analysis with the use of demographic data (child's age, family's time in Scotland, and parents' education level) was carried out. This time English scores at T1 and their scores at T2 were the dependent variables.

Parents' education level was included in this analysis as parents' education level influenced the children's English scores. The analysis of the relationship between the parents' education and the children's language results was carried out with the use of the ANOVA as the groups analysed were relatively small. Only the effect of their fathers' education level on the children's results at T2 was significant ($F(3,49) = 3.08$, $p < 0.05$). The children whose fathers had higher education level received higher scores than the children whose fathers had lower education level ($R = 0.30$, $p < 0.05$).

The children's age and time in Scotland were significantly correlated with their L2 results. There was a significant positive correlation between the number of years the families have spent in Scotland and English scores at both T1 ($R = 0.30, p < 0.05$) and T2 ($R = 0.34, p < 0.05$). At T1 the scale that was a reason for this correlation was the Grammar score ($R = 0.31, p < 0.05$). At T2, there was a significant correlation between the families' time in Scotland and the results in the case of both scales: Grammar ($R = 0.34, p < 0.05$) and Information ($R = 0.30, p < 0.05$). The number of years spent in Scotland by children correlated positively only with English Grammar score at T2 ($R = 0.27, p < 0.05$). The children who had lived in Scotland for a longer period of time achieved better results in terms of their knowledge of English grammar at T2. Figures 5.3 and 5.4 illustrate the analyses carried out.

	R^2	Final β	$p <$	VIF	Tolerance statistics
English score T1	0.26				
Child's age		0.38	0.01	1.00	0.99
Family's time in Scotland		0.29	0.02	1.03	0.97
Parents' education		0.16	0.23	1.03	0.97

Figure 5.3 Child's age, family's time in Scotland, and parents' education level as predictors of children's L2 score at T1

	R^2	Final β	$p <$	VIF	Tolerance statistics
English score T2	0.18				
Child's age		0.25	0.06	1.01	0.99
Family's time in Scotland		0.30	0.02	1.04	0.96
Parents' education		0.09	0.56	1.03	0.97

Figure 5.4 Child's age, family's time in Scotland, and parents' education level as predictors of children's L2 score at T2

When the children's results at T1 were analysed [Figure 5.3], the predictors explained 26% of the variation ($R^2 = 0.26$). A significant regression equation was found ($F(3,49) = 5.63, p < 0.01$).

At T2, the predictors accounted for 18% of the variation ($R^2 = 0.18$) [Figure 5.4]. The number of years a family has spent in Scotland was a significant predictor of the children's English language scores at both T1 and T2. The child's age was only a significant factor at T1.

6.2 Selected socio-demographic variables as predictors of children's L1 scores and change scores (T2-T1)

6.2.1 Parents' cultural orientations and education level as predictors of children's L1 change scores (Research Question 2a)

Similar analyses were carried out in order to explore the relationship between variables in the case of Polish language scores. The same as before predictors were analysed in regard to the Polish change score as preliminary analysis indicated that, in the case of the Polish language results, both parents' education affected significantly the children's scores at T2 ($R = 0.32, p < 0.01$).

Additionally, the mothers' education had a significant effect on the children's change score (i.e. a difference between their Polish language scores at T1 and at T2) ($F(2,45) = 3.42, p < 0.05$). In a single regression analysis with mothers' education as the only predictor of the difference between Polish test scores between T1 and T2 (the change score), the mothers' education explained 11% of the variance in the children's Polish score change ($F(1,51) = 6.50, p = 0.14$). Children of mothers with higher education levels made more progress between T1 and T2 in their Polish competence. The effect of the mothers' education was also significant in the case of the Receptive Language scale at T2 ($F(2,50) = 3.38, p < 0.05$).

The analysis with the use of parental cultural orientations and their education level as predictors of the children's L1 progress was carried out first [Figure 5.5].

	R ²	Final β	$p <$	VIF	Tolerance statistics
Polish change score	0.07				
Parents' heritage orientation		0.08	0.59	1.18	0.84
Parents' mainstream orientation		0.09	0.54	1.17	0.85
Parents' education		0.27	0.05	1.10	0.91

Figure 5.5 Parents' heritage and mainstream cultural orientation and their education level as predictors of children's L1 progress

There was no significant effect of the parents' cultural orientation and their education level on Polish change score in this model. All predictors explained around 7% of the variation in children's Polish change score between T1 and T2 ($R^2 = 0.07$). Previously described positive correlation between the children's change score in Polish and their parents' education was also observed in this analysis ($R = 0.34$, $p < 0.05$). When parents' education was added to the equation the F values increased to over 1.0, but none of the coefficients were significant.

However, when the parents' education level was replaced with the mothers' education level [Figure 5.6], the F value of this individual predictor increased to 2.42 ($p < 0.05$) and the three predictors accounted for 12% of the variation.

	R ²	Final β	$p <$	VIF	Tolerance statistics
Polish change score	0.12				
Parents' heritage orientation		0.28	0.84	1.14	0.88
Parents' mainstream orientation		0.17	0.25	1.28	0.78
Mothers' education		0.37	0.01	1.14	0.88

Figure 5.6 Parents' heritage and mainstream cultural orientation and mothers' education level as predictors of children's L1 progress

The model with the same factors (parents' heritage and mainstream cultural orientation and their education level) was also used to explain the children's Polish

scores at T2 and it was significant ($F(3,49) = 3.40, p = 0.02$). The above-mentioned variables explained 17% of the total variance. Parental level of education was a significant predictor of the children's L1 scores at T2 ($t = 2.98, p < 0.01$).

6.2.2 Parents' language attitudes as predictors of children's L1 change scores (Research Question 2b)

In the next regression analysis parents' language attitudes were predictors of the children's L1 progress change score [Figure 5.7].

	R^2	Final β	$p <$	VIF	Tolerance statistics
Polish change score	0.13				
Parents' subtractive attitude		0.05	0.71	1.02	0.98
Parents' bilingual attitude		-0.07	0.72	1.76	0.57
Parents' maintenance attitude		-0.05	0.80	1.79	0.56

Figure 5.7 Parents' language attitudes as predictors of children's L1 progress

The value of R^2 was 0.13. The ANOVA analysis indicated that none of the predictors made a significant contribution to the model as all F-ratio values were smaller than 1.

6.2.3 Children's place of birth, family's time in Scotland, and parents' education as predictors of children's L1 scores (Research Question 2c)

There was a significant negative correlation between the number of years the parents have spent in Scotland and their children's Polish scores at T1 ($R = -0.28, p < 0.05$). At T1, it was the Productive Language scale that contributed to this correlation with $R = -0.42, p < 0.01$. When Productive Language and Receptive Language scales were analysed separately, the observed effect was also significant for the language scores at T2. The children's Productive Language score was correlated with their parents' time in Scotland ($R = -0.27, p < 0.05$). There was also a negative correlation between the time spent in Scotland by children and the Polish Productive Language

scale at T1 ($R = -0.37, p < 0.05$). The children who had lived in Scotland for longer, had lower scores on this scale.

The set of demographic variables that were entered into a regression analysis as predictors of L1 scores were child's place of birth, family's time in Scotland, and parents' education level [Figure 5.8].

	R^2	Final β	$p <$	VIF	Tolerance statistics
Polish score T1	0.12				
Child's place of birth		-0.20	0.30	2.23	0.49
Family's time in Scotland		-0.16	0.44	2.23	0.49
Parents' education		0.16	0.25	1.03	0.96

Figure 5.8 Children's place of birth, family time in Scotland, and parents' education level as predictors of children's L1 competence at T1

All predictors explained 12% of the variation in L1 competence at T1 ($R^2 = 0.12$). The ANOVA showed that F-ratio was: 4.91 for child's place of birth ($p < 0.05$); 2.41 for child's place of birth and family's time in Scotland; and 2.06 for child's place of birth, family's time in Scotland, and parents' education level.

The child's place of birth made a significant contribution to the model, but it was not significant individually.

When the children's L1 scores at T2 were explored, the three variables explained 13% of the variation. None of them contributed significantly to the model. However, the parents' education factor was significant with $\beta = 0.35, t = 2.58, p < 0.05$.

6.3 Parents' heritage orientation and mainstream orientation as predictors of socio-emotional problems at T2

The preliminary analysis of relationship between cultural orientations and social and emotional difficulties at T2 indicated that there were a few correlations between both heritage and mainstream cultural orientation and the children's SDQ scores [see

Section 3.2 and Section 5.3 of this chapter]. These relationships were not analysed at T1 as the parents' cultural orientations were only measured at T2.

A separate multiple regression analysis was carried out with the two cultural orientations (heritage and mainstream one) entered into the equation as predictors [Figure 5.9].

	R ²	Final β	$p <$	VIF	Tolerance statistics
Socio-emotional problems T2	0.15				
Heritage orientation		-0.22	0.25	1.14	0.88
Mainstream orientation		-0.25	0.78	1.14	0.88

Figure 5.9 Multiple regression analysis with parents' heritage and mainstream cultural orientation as predictors of social emotional difficulties (T2)

At T2, the two cultural orientations explained around 15% of the variance in the children's social and emotional problems. Around 9% of this variance was explained by the heritage orientation variable with $p < 0.05$.

A significant regression equation was found ($F(2,50) = 4.39, p = 0.018$). The ANOVA indicated that the F values were: 5.31 for heritage orientation, and 4.39 for heritage and mainstream orientation.

7. Summary

7.1 The influence of demographic factors

When the sample was divided according to the children's place of birth, it was observed that children who were born in Poland obtained higher scores in their Polish language tests at T1 than those children who were born in Scotland or another English-speaking country. In regard to the parents' age, there were two significant correlations found: one between the parents' age and their children's English scores at T2, and another between the fathers' age and their children's Polish Productive Language scores at T1.

Parents' education level affected children's Polish and English results. In regard to English, there was a positive correlation between the fathers' education and their children's test scores at T2. In regard to Polish, the parents' education was associated with the children's higher scores at T2. Additionally, the children of mothers with higher education levels improved their language skills more between T1 and T2 than the children of parents with lower education level ($R = 0.34, p < 0.01$). Mothers' education level was a significant predictor of the children's L1 change score.

Another association was found between parents' education and their cultural orientation – respondents with higher education level scored more on the Mainstream scale of the Acculturation Questionnaire. The third correlation was the positive correlation between parents' education level and the amount of time their children spent exposed to English in formal and informal environments.

The length of time parents had lived in their host country also affected their children's language test results. In regard to Polish, this effect was only found at T1, but in English it was observed in the tests at both T1 and T2. This correlation was negative in the case of Polish and positive in the case of English - the family's time in Scotland was a significant predictor of the children's English scores. With the length of time spent by parents in Scotland, their children Polish results deteriorated, but their English results improved. The Polish Productive Language scale at T1 was negatively correlated with the children's time in Scotland and the English language Grammar scale at T2 was positively correlated with their time in Scotland. The children's time in Scotland was a significant predictor of their Polish scores at T1 in the model consisting of the main socio-demographic factors. Additionally, there was also a negative correlation found between the number of years their children had spent in Scotland and their parents' subtractive language orientation.

7.2 The influence of the parental cultural orientation and language attitudes

There was a negative correlation between the number of years spent by the parents in Scotland and their heritage culture orientation. Respondents' higher education levels were also negatively correlated with both Heritage and Maintenance

scale of the Acculturation Questionnaire. Parents with more years of education seemed to be less enthusiastic in terms of their approach to cultural activities than parents with fewer years in education. Fathers and mothers differed here, as in the case of the fathers this correlation was significant only for the Heritage culture scale, and in the case of the mothers it was significant only for the Mainstream culture scale. There was also a positive correlation between parental cultural orientation scores. Additionally, a heritage cultural orientation correlation with the Polish language use was observed.

In regard to the link between the parental cultural orientation and the children's language outcomes, parents' heritage orientation was negatively correlated with the children's L2 Grammar score at T2. Parental heritage orientation was a significant individual coefficient in the model analysed in the first regression analysis (other predictors were: mainstream orientation and parents' education level) when the L2 change score was analysed.

The parents' bilingual language attitudes were only associated with their heritage culture scores. Similar to the parents' heritage orientation, their bilingual language attitudes were negatively affected by the length of their stay in the host country. Additionally, there was a negative correlation between the subtractive language attitudes and the parents' age and the length of their child's stay in the country.

7.3 Socio-emotional functioning

Both Heritage and Maintenance cultural scales were negatively correlated with socio-functioning problems in children. In regard to the association between the children's socio-emotional functioning and their L1, only the Emotions sub-scale and Prosocial sub-scale were linked with the children's language proficiency. Both of them were significantly correlated with the children's productive language competence at T2. The Emotions sub-scale was also associated with the children's progress in this aspect of the language proficiency (productive competence).

In L2, the Emotions sub-scale was correlated with the children's Information score at T2. However, the Prosocial sub-scale was correlated with the Information score at

both T1 and T2. Additionally, a correlation between the children's Behaviour subscale was associated with their L2 Grammar score.

8. Discussion

The purpose of this chapter was to answer the question about the role parents' cultural orientations, their language attitude and demographic factors play in children's language acquisition/maintenance. With the use of tests of correlation and regression analysis the relationships between the above-mentioned factors were explored giving a set of results that can be interpreted in this section.

8.1 Demographic factors

Most of the demographic factors included in this study influenced the children's results in some way. Both the child's place of birth and their time in Scotland influenced their Polish results. Being born in Poland was positively correlated with the children's scores at T1 and living in Scotland for a long time was negatively correlated with their scores. The place of birth made a significant contribution to the model of socio-demographic factors as predictors of L1 scores. Family's time in Scotland was a significant predictor of L2 scores. However, these two effects appeared only at the beginning of the study. At some point during the period between T1 and T2 these factors lost their significance. This might suggest that in terms of L1 the first years of school education constitute an influence that overtakes the children's pre-school experiences. In regard to the children's English language competence, the link between the time a child had spent in Scotland and their English scores that appeared at T1 – not only still existed at T2, but also became much stronger and more statistically significant.

Parents' age appeared to be a factor in L2 competence at T2. The children of older parents received better English scores and the reason for this could be that there was a positive correlation between the mothers' age and the previous English exposure. In turn, the previous exposure was a factor that affected the children's scores at T1

and T2. An alternative reason could be that older mothers have older children who in the case of English did better than their younger peers. The findings regarding the negative correlation between the fathers' age and the children's Polish language scores at T1 could be explained through the fact that younger fathers would have spent less time in Scotland. As the time spent in the country by the parents was correlated with the time spent in the country by the child, the children of these fathers would have spent less time in Scotland too and because of that they were advantaged in terms of their L1 exposure.

The parents' education influenced children's L1 and L2 results in a different way. Higher education levels of both parents were associated with better Polish language competence, particularly with the progress made by the children between T1 and T2. However, this last correlation (between the T1 and T2 change score and parents' education level) was significant only in the case of mothers. In regard to English, both parents' education had no effect on the children's L2 competence. Only the correlation between fathers' education level and the children's scores at T2 was significant. These findings are contrary to the results of previous studies (Golberg et al. 2008; Paradis 2001) in which families' SES positively affected the children's L2 acquisition. In regard to the L1, the results of the current study also differ from the previous studies' findings which indicated that higher education in parents was linked with lesser L1 proficiency (Boyd 1986) and its attrition (Arriagada 2005; Partes and Schaufli 1994). However, it is consistent with findings suggesting that there is a link between mothers' education and their children's L1 competence (Golberg et al. 2008). On the other hand, the explanation of Golberg et al. (2008) that L1 acquisition improved through better quality of L2 which in turn was associated with mothers' education level, cannot be used in the case of the current study. The possible explanation of this study's findings could be that mothers' education level can only affect the children's proficiency in language they use as there is no personal linguistic support they can offer to their children in terms of L2 learning. The reason for more educated mothers focusing on L1 in the current study could be that these mothers may be more aware of all sort of benefits of bilingualism and therefore, at the same

time realising that both languages need to be supported, they may try to focus on their children's native language competence, because this is an area where they can help. In addition, they could also feel more confident that their child is able to learn two languages, i.e. that he or she can maintain L1 without any disadvantage to their newly learned L2.

8.2 Cultural orientations

In terms of the influence of the parents' cultural orientation in their children's language competence, the only correlation found in this area was the negative correlation between English Grammar score and parental heritage orientation at T2. The heritage orientation was the only predictor that contributed significantly to the model with cultural orientations and parental education levels as predictors of the English change score. These findings are different from the results of Tsai et al. (2012) where no correlation between parents' cultural orientations and the children's L1 use and competence was found. This indicates that some messages parents convey to their children discourage them from learning English. Another potential explanation is that this variable was mediated by the amount of the English language use which in turns was influenced by parental attitudes. This was the conclusion of Tsai et al. (2012) who suggested that the children's L1 proficiency could be indirectly influenced by parental attitudes through the use of L1 with children. There was a significant correlation found between the L1 use and the children's L1 competence in the current study [see Section 3.3 of Chapter 6].

The findings of the current study support the two-dimensional approach to acculturation and enculturation (Berry 2005; Ryder et al. 2000; Tsai et al. 2012). The parents in this study did not have to make a choice between heritage and mainstream culture, instead they developed both. Moreover, their scores on both heritage and mainstream culture scales were correlated with each other. Migrants who participated in cultural events and festivals of their own country, were also active in terms of the mainstream culture events and festivals. The positive correlation between the heritage and mainstream culture scales suggested that in this case

acculturation and enculturation were not separate and independent, but that the increase in one was associated with the increase in the other. These results could be associated with a novel type of migration the Polish migrants represent (transnational migration). They continue contact with the heritage country. Their mobility might make them more flexible and less confined to one or the other culture. This evidence differs from the results of the previous studies which suggested that these two constructs were not negatively correlated but did not mention a positive link between them. Perhaps the current findings are the result of today's globalization merging cultures together and making them more "agreeing" with each other. Another potential reason for this could be the difference between previously studies' migration groups and the Polish on in this study.

8.3 Language attitudes

Unlike in the studies of Hakuta and D'Andrea 1992; Paradis 2009; Tsai et al. 2012, there was no significant correlation between the language attitudes of parents and their children's L1 and L2 scores. A possible reason for this could be that the parents' sample in the current study was not heterogenous enough and their subtractive language scores were lower than their maintenance and bilingual language scores. Most parents participating in the research were well aware of the fact that in today's globalised society any additional language might constitute an asset.

8.4 Socio-emotional functioning

The significant association between the parents' cultural orientations and their children's SDQ scores (difficulties scale) indicates that integration into the dominant society played a positive role in the children's adjustment. In the current study the children's socio-emotional functioning could be a reflection of their response to the new, stressful situation they find themselves in when they have to become bilinguals as a result of living in a country with a language different to their native one.

It is important to emphasize that the integration here is understood in the way Berry (2005) presents it, i.e. as a construct characterised by a high level of

maintenance of heritage culture and identity and a high number of relationships in both cultural groups. In the current study the problems in children were negatively correlated with their parents' two cultural attitudes (heritage and mainstream orientations) and their prosocial behaviour at T2 was positively associated with their parents' heritage cultural orientation. Regression analysis indicated that the heritage cultural orientations of parents was the only predictor of their children's social and emotional difficulties. It affected them inversely. These findings indicate fit with Berry's (2005) model of successful biculturalism [see Section 3.5.2.2 in Chapter 2].

The correlation between parental attitudes and the children's socio-emotional functioning may not be a direct causal link. It is more likely that parents' attitudes affect their children through their family life and ethos. Additionally, in this period of their lives the children face so many changes and challenges which could influence their mental health in a more direct way. There could be more interfering variables coming into the equation, many of them could have their source outside home. For example, children, particularly at the beginning of the school year, might experience acculturative stress because their L2 is not fluent. In the same vein, at the end of the school year they might experience stress resulting from the fact that their L1 is deteriorating. It is extremely hard to disentangle these two factors and their effects in a relatively short-term study.

The correlation in question could be explained through a different link based on the parents' open-mindedness. Perhaps the migrants who are ready to accept their new life experiences and incorporate new beliefs into their old system of values simply tend to bring up children who are more socially adjusted. The correlation between parental acculturation/enculturation and their children's socio-emotional functioning could also be a consequence of something else. There could be another mediating variable – for example parents who represent a certain orientation might have changed the way they bring up their children as a result of cultural differences in the society. However, this would not explain that both heritage and maintenance orientation were linked to the children's better socio-emotional functioning.

The next “Language input” Chapter 6 will present the data regarding the exposure to both L1 and L2 and answer Research Question (4): “What is the role of engagement with a language in language development of the 4 to 6-year-old children of Polish migrants to Scotland?”.

CHAPTER 6

ENGAGEMENT WITH A LANGUAGE

1. Introduction

This chapter has two main aims: first, to confirm the link between the amount of language input and children's development in their two languages. This will allow to answer Research Question (4) "What is the role of engagement with a language in the language development of the 4 to 6-year-old children of Polish migrants to Scotland?". This part of the research is marked as a green arrow in Figure 6.1. The second aim is to explore the possible association between parents' cultural and language attitudes and language exposure and input. Although this additional research question has been added as a result of findings in Chapter 5, it is justified to enable a fuller picture of roles played by social, cultural and emotional factors in children's language development.

As regards Research Question (4): "What is the role of engagement with a language in the language development of the 4 to 6-year-old children of Polish migrants to Scotland?", previous studies have already indicated that the exposure to a language is a crucial factor in first and second language acquisition in children. This established link between language input and language development is re-examined in this chapter first, as it is important to identify the part input plays relative to other factors.

The language input factor comprises three sub-measures for which data were collected through the parents' questionnaires: (1) Past English language input (pre-school exposure); (2) Extra Polish language input (Polish school attendance + visits to Poland); and (3) Current language exposure (English and Polish). These sub-measures are described in sub-sections of Section 3 (Language Input) of this chapter. Each sub-section explains how sub-measures were created followed correlational analyses of relevant data, answering Research Question (4) on the contributions of the three language elements. Section 4 of this chapter reports on regression analyses that

identify key predictors of language development and further regression analyses that integrate the socio-cultural aspect from Chapters 5 with the language input measures from Chapter 6. The analyses were conducted for each sub-measure and each language based on certain predictions.

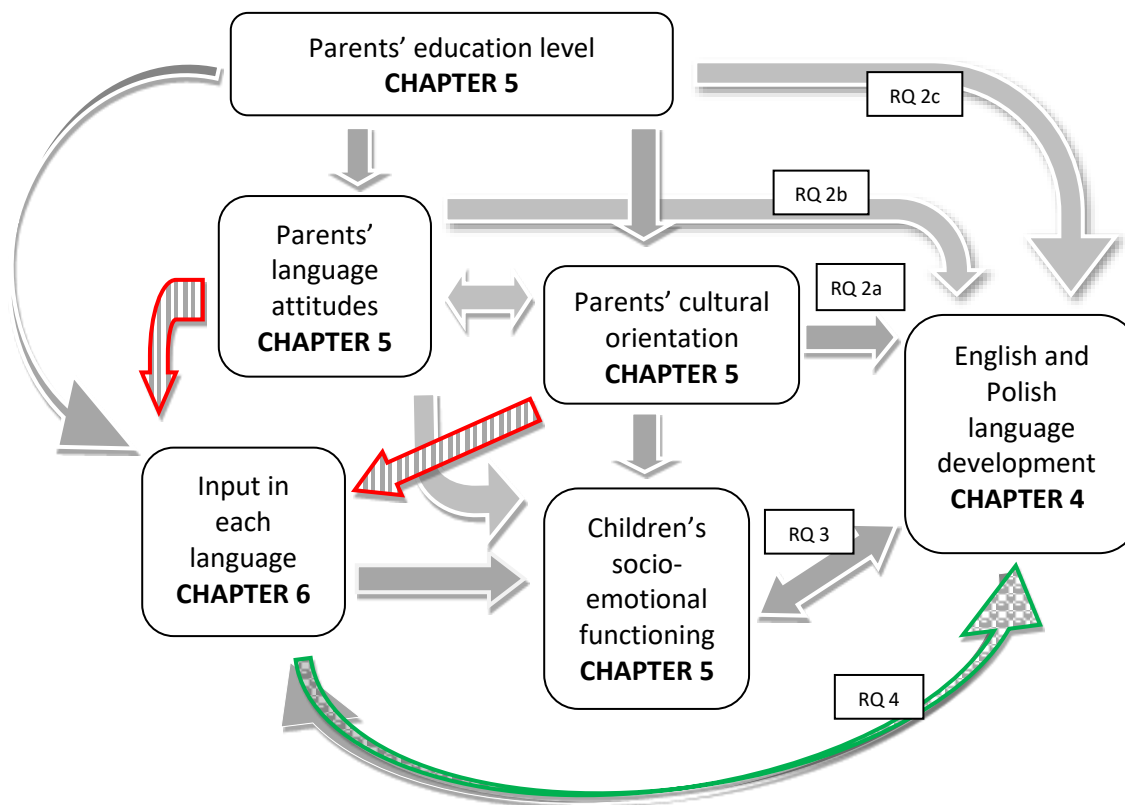


Figure 6.1 Main factors examined during the study and relationships between them after the data analysis. Green dotted outlined arrow indicates a link that is investigated in this chapter in order to answer RQ (4). Red striped outlined arrows indicate an extra relationship that will be explored in this chapter as a result of the findings of Chapter 5.

It was predicted that the greater amount of time the children were exposed to English before they started school would be associated with higher English language scores at both T1 and T2. The composite of the extra Polish language input consisted of two variables: time in Poland and time in Polish school and it was expected that each of these factors would be positively correlated with the children's L1 skills. Similarly, the amount of current language exposure in Polish and English was predicted to affect their respective language results and enhance their scores. It was expected that the children coming from families with more use of L1 at home would

have higher Polish test scores than the children with less home use of L1 at both T1 and T2. Additionally, it was expected that the current language use would be positively correlated with the children's change score (T2-T1).

As regards the relationship between parental cultural orientation and the amount of input in English or Polish (red striped arrows in Figure 6.1), it was predicted that the correlation between them would be positive for respective languages.

Similarly to Chapter 5, the data presented in this chapter apply only to the 53 respondents who completed and returned the Family, Language and Attitude Questionnaire and their children.

2. Data management

Due to the relatively large number of variables in this chapter, in order to avoid multicollinearity, some of them were collapsed into related areas and composites of measures were created [Table 6.1]. The parents were asked about several contexts of language input, then composite scores were created. Similar approaches to language input variables have been adopted in other studies (Haman et al. 2017; Unsworth et al. 2014). In the current study, most composites were created from basic variables that could be clustered, as some were overlapping or encompassed by others, such as "Informal English exposure" and "Other English exposure". Sometimes they were merged to reduce the final number of variables.

Some variables that seemed to be overlapping were not merged, because it was questionable whether they measured the same thing, for example "Child's time in Scotland" and "English exposure". Additionally, in the case of these two variables there was a question whether the length of time in the country could be indicative of a child's language development if there was no exposure to English. The "Speaking to peers" and "Speaking to siblings" variables were not merged; instead two groups were created: one with children who had siblings and another with only children.

Table 6.1 *Composites of engagement with a language variables*

Basic variables	Composites of variables
<ul style="list-style-type: none"> • Formal English exposure + Informal English exposure + Other English exposure • Reading + Speaking to adults + TV + Speaking to peers + Speaking to siblings • Polish school attendance + Time in Poland 	<ul style="list-style-type: none"> ➤ ENGLISH EXPOSURE ➤ CURRENT LANGUAGE USE ➤ EXTRA POLISH LANGUAGE INPUT

A few of the variables were eliminated, as the data were only collected as a precautionary measure. All the old components of the new composite variables and eliminated variables have been kept in the data records.

Some final variables were calculated based on certain elementary variables in order to create composite scores for analysis [Table 6.2]. For example, the Polish school attendance was calculated by multiplying years of attendance by hours per week of attendance. This gave a more precise time a particular child had spent learning Polish in Polish afternoon school.

Table 6.2 *Final variables created from elementary variables*

Elementary variables	Final variables
<ul style="list-style-type: none"> • Years of English exposure x hours per week of English exposure • Years of Polish school attendance x hours of Polish school attendance • Weeks of time in Poland x hours of Time in Poland 	<ul style="list-style-type: none"> ➤ ENGLISH EXPOSURE ➤ POLISH SCHOOL ATTENDANCE ➤ TIME IN POLAND

3. Engagement with a language

3.1 Previous English language exposure

3.1.1 Previous English language exposure data

Most participating children had some contact with English before they started mainstream education. Thirty-eight children (71.7%) out of 53 had formal contact

with English, for example attending preschool nursery or a play group. In regard to informal contact with English prior to starting school, 14 children (26.4%) out of 53 had some. The informal contact explained in the questionnaire as any type of contact with English language in a non-structured environment, for example through interactions with a family friend or while playing with visiting children. This section of the questionnaire had a third option – “other” contact with English which was chosen by four respondents (7.5%) [Table 6.3].

Table 6.3 Preschool formal, informal and other contact with English

		Frequency	Percent
Formal contact with English	no	15	28.3
	yes	38	71.7
Informal contact with English	no	39	73.6
	yes	14	26.4
Other contact with English	no	49	92.5
	yes	4	7.5

3.1.2 Previous English exposure and language test scores (L2 English) – data analysis

In this first part of statistical data analysis, tests of correlation were conducted for previous English exposure and children’s language scores. The prediction regarding these variables stated that time the children spent in an English-speaking environment would be positively correlated with their language scores at both T1 and T2.

The distribution of this data (previous English exposure) was not normal, but it became normally distributed after log-transformation. A test of normality was carried out and the value of Kolmogorov-Smirnov test was 0.139 (df = 38, $p < 0.06$).

This first analysis found that there was a significant positive correlation between the children’s English T1 scores and their previous language exposure ($R = 0.62$, $p < 0.01$). A single regression analysis showed that previous English exposure explained 38% of the variance in the children’s English results at T1 ($F(1,48) = 30.48$, $t = 8.46$, $p < 0.01$). When the two component scales (Information and Grammar) were analysed separately, the correlation between the previous exposure and the children’s Information scores was the same as the correlation between the previous exposure and their Grammar scores ($R = 0.61$, $p < 0.01$).

At T2, there was also a positive correlation between the amount of previous exposure to English and the children's scores ($R = 0.42, p < 0.01$) ($R = 0.36$ for Information and $R = 0.43$ for Grammar). Additionally, a significant negative correlation between the children's previous contact with English and their change score (a difference between T1 and T2) ($R = -0.40, p < 0.01$) was found. The children who progressed more between T1 and T2 were the ones who received less exposure to English before they started school.

3.2 Polish language

3.2.1 Time spent by a child in Poland

3.2.1.1 Time in Poland data

On average, the children participating in the study spent 3 weeks and 5 days during a year in Poland ($M = 3.77, SD = 3.34, \text{range: } 0 - 24$). Only four (7.5%) children did not spend any time in Poland. Forty-nine (92.5%) spent between one and 24 weeks there ($M = 4.08, SD = 3.29$).

3.2.1.2 Time in Poland and language test scores (L1 and L2) – data analysis

The prediction in relation to the extra Polish language input was that time in Poland would be positively correlated with the children's L1 results. As there was no relation found between the time in Poland and the children's language scores (T1: $R = -0.005, p = 0.97$; T2: $R = -0.02, p = 0.90$) an exploratory analysis was carried out and it revealed that there was a significant positive correlation between the time spent in Poland and Polish scores, but only at T2 and only in the case of girls ($R = 0.44, p < 0.05$). Girls who, during the year, spent more time in Poland, obtained higher scores in their Polish tests at T2. In boys this relationship was not statistically significant (T1: $R = -0.13, p = 0.52$; T2: $R = -0.18, p = 0.40$).

There was no association between the time spent in Poland and the children's English scores either at T1 or at T2. The time spent in Poland did not have a significant effect on the difference between the children's results at T1 and T2 (Polish change score and English change score).

3.2.2 Polish school attendance

3.2.2.1 Polish school attendance data

Nineteen child participants out of 53 (35.8%) attended one of the afternoon Polish schools in Scotland, 34 (64.2%) did not. When the respondents whose children took these classes were asked to give the number of years of their children's education there, it was assumed that they would give the number of academic years, not calendar years, therefore the actual duration of the language input would be 10 months. The mean of the number of years the children had been in the Polish school was almost 5 months ($M = 0.44$, $SD = 0.67$, range 0 – 2, $N = 53$). The mean number of hours per week the children had attended the Polish school was 1.35 ($SD = 1.93$, range 0 – 6, $N = 53$). The maximum number of hours per week a child attended the Polish school was six.

The number of years and the number of hours per week were used to calculate the Polish school attendance variable. The children on average spent 91.61 hours in the Polish school ($SD = 154.34$, range: 0 – 624, $N = 53$).

3.2.2.2 Time spent in Polish school and language test scores (L1 and L2) – data analysis

In regard to the time in Poland variable, it was expected that it would be positively correlated with the children's L1 scores. However, there was no correlation between time spent in Polish school and the children's Polish language scores at either time point. When the sample was divided into two groups (the improvers and the children whose results deteriorated), an independent t-test showed no statistical difference in their results. The Polish school attendance time did not have any association with the change score in Polish between T1 and T2. Moreover, there was no correlation between time spent in the Polish school and the children's English language results at T1 and T2 or their change over time.

3.2.3 Extra Polish language input

There was no significant association between the extra Polish language input (composite of Polish school attendance and time spent in Poland) and the children's

Polish test results at T1 and T2. When the split between the children whose scores increased and those whose scores deteriorated was applied, a t-test demonstrated that there was also no significant difference between these two groups. There was no significant correlation between the extra Polish language input and the Polish change score of children analysed as one group.

However, when the correlation test was run separately for boys and girls, the correlation between the extra Polish language and language scores input was statistically significant in the case of girls at T2 ($R = 0.49, p < 0.01$). The girls' Polish language scores were higher when they had been exposed to extra Polish. The variable that contributed to this result to the largest extent was their time spent in Poland ($R = 0.44, p < 0.05$).

The results regarding English language were similar. The extra Polish language input was not associated with the children's English language test scores either at T1 or at T2 and there was no correlation found between the extra Polish language input and the English score change.

3.3 Current language use (L1 and L2)

3.3.1 Current language use data

The information for the current language use variable was contained in the Family, Language and Attitude questionnaire that included questions about the family's current use of English and Polish in relation to five activities. The data collected were categorical, as the scoring was the following: 0 – always in English; 1 – mostly in English; 3 – half Polish half English; 4 – mostly in Polish; 5 – always in Polish. However, they could also be regarded as incremental, therefore they were treated as continuous in order to combine the responses into one total score on language input which is consistent with empirical literature regarding quantitative research with the use of Likert scale (Carifio and Perla 2008; Norman 2010).

Table 6.4 illustrates the L1 and L2 frequency of use during the children's time outside their school hours according to the five types of the language use: speaking

to adults, reading, watching TV/DVD, speaking to other children and speaking to siblings.

Table 6.4 *The amount of time spent by children using English and Polish according to parental report*

	ENGLISH			POLISH	
	Always in English	Mostly in English	Half Polish half English	Mostly in Polish	Always in Polish
A. In which language does your child speak to adults (include communication technologies, e.g. Skype, telephone, etc.) (N = 53)	0 0%	1 1.9%	20 37.7%	24 45.3%	8 15.1%
B. In which language is your child read to (N = 53)	3 5.7%	5 9.4%	23 43.4%	14 26.4%	8 15.1%
C. In which language does your child watch TV/DVDs (N = 53)	3 5.7%	4 7.5%	28 52.8%	17 32.1%	1 1.9%
D. Which language does your child use while playing with other children (include the time spent with the child's peers outside school for example in their houses, outside, etc.) (N = 53)	1 1.9%	13 24.5%	28 52.8%	11 20.8%	0 0%
E. Which language does your child use while playing with their siblings (N = 39)*	1 2.6%	5 12.8%	10 25.6%	15 38.5%	8 20.5%

* This question applied only to the children who had siblings therefore N = 39

Overall, the children (N = 53) spent more time outside mainstream education using Polish than English. Outside school none of the children used English exclusively while speaking to adults and none of the children used Polish exclusively while speaking to peers. The last question of the language use part of the questionnaire applied to communication with siblings, therefore here the sample was smaller (N = 39). The children outside school used mostly Polish while speaking to adults, speaking to their siblings, reading, and watching TV/DVD. The only situation when they used more English was during their communication with peers. Twenty-four children (45.3%) used more Polish when they spoke to adults outside school (communication included

technologies such as Skype, telephone, iPhone etc.). Most children were read to in both English and Polish (23 children, 43.4%), but the next largest group was the one using mostly Polish (14 children, 26.4%). The responses to the question regarding TV and/or DVD revealed that most children watched films and programmes in both Polish and English (28 children, 52.8%). Seventeen children (32.1%) watched TV and/or DVD mostly in Polish. Only answers regarding speaking to other children differed slightly from other questions' answers indicating that in this one situation children used mainly English. Twenty-eight children (52.8%) spoke to their peers in half Polish and half English and 13 children (24.5%) spoke to them mostly in English. Most children also used Polish while speaking to their siblings (15 children, 38.5%).

3.3.2 Current language use and language scores (L1 and L2) – data analysis

It was predicted that the amount of current language exposure in L1 would be positively correlated with their scores in L1 (Polish) and the amount of current language exposure in L2 would be positively correlated with their scores in L2 (English) at both T1 and T2. It was expected that the scores of the children who used more Polish would be higher at T2 than at T1 and the scores of the children who used more English would be higher at T2 than at T1.

The relationships between the current use of languages and the children's Polish and English T1 and T2 scores were also analysed, as well as their Polish change scores (T2-T1) and their English change scores (T2-T1).

3.3.2.1 English language

To find out whether the expected relationship between the current English use and the children's L2 scores existed, tests of correlations were carried out. The analysis showed that the current language use score was significantly correlated with the children's English test scores at T1 ($R = 0.35$; $p < 0.05$). Children who used more English in their time outside school, at T1 obtained higher scores than children who used less English. However, the current language use was not significantly correlated with the children's English test scores at T2 and there was no correlation between this variable and the children's change score. When the current language use variable

was combined with the previous exposure to English, the newly created variable was significantly correlated with the T1 ($R = 0.61, p < 0.01$) and T2 scores ($R = 0.43, p < 0.01$).

3.3.2.2 Polish language

In order to check whether the prediction that more frequent current use of Polish would be positively correlated with the children's Polish scores tests of correlation were run. The analysis found a significant positive correlation between the current Polish language use and the children's Polish scores at T1 ($R = 0.33, p < 0.05$) and T2 ($R = 0.31, p < 0.05$). When the current language use variable was combined with the extra input in Polish, there was no correlation between the new variable and the T1 and T2 scores.

Table 6.5 *Correlation between current language use (Polish and English) and boys' and girls' test scores at T1 and T2*

			ENGLISH TOTAL SCORE		POLISH TOTAL SCORE	
			(T1)	(T2)	(T1)	(T2)
Current language use	girls	Pearson R	0.46*	0.41*	0.39*	0.49**
		p (2-tailed)	0.01	0.03	0.04	0.009
		N	28	28	28	28
	boys	Pearson R	0.12	0.002	0.26	0.12
		p (2-tailed)	0.57	0.99	0.21	0.57
		N	25	25	25	25

* correlation is significant at the 0.05 level (2-tailed)

** correlation is significant at the 0.01 level (2-tailed)

Children who used more Polish outwith school hours achieved higher scores in Polish at both T1 and T2. There was no significant correlation between current language use and the children's change score in Polish.

When the group was split by gender, the findings indicated that the overall correlation in both languages was mainly attributable to the girls' results [Table 6.5].

3.3.2.3 Contexts of language use – data analysis

The contexts of language use were analysed separately in order to see which of them were the most important elements of the current language use variable.

Additionally links between individual contexts were checked to find out if they were linked in any way.

Some particular types of language use were correlated with the children's language score. They were: Speaking to peers, Speaking to adults, and Watching TV (only at T1) [Table 6.6].

The contexts of language use significantly that were significantly correlated with the Polish scores were: Speaking to peers (only at T1) and Speaking to siblings (only at T2) [Table 6.6].

Table 6.6 *Summary of Pearson 2-tailed correlations between the contexts of language use and children's language scores for L1 and L2*

		CONTEXTS OF LANGUAGE USE				
		Speaking to adults	Reading	Watching TV/DVD	Speaking to peers	Speaking to siblings
English total score (T1)	Pearson R	0.34*	0.17	0.33*	0.34*	-0.08
	p (2-tailed)	0.01	0.23	0.01	0.01	0.69
	N	53	53	53	53	39
English total score (T2)	Pearson R	0.35*	0.04	0.15	0.41**	-0.03
	p (2-tailed)	0.01	0.75	0.29	0.002	0.87
	N	53	53	53	53	39
Polish total score (T1)	Pearson R	0.24	0.11	0.23	0.30*	0.28
	p (2-tailed)	0.087	0.42	0.10	0.03	0.08
	N	53	53	53	53	39
Polish total score (T2)	Pearson R	0.25	0.11	0.19	0.16	0.47**
	p (2-tailed)	0.07	0.43	0.17	0.24	0.002
	N	53	53	53	53	39

* correlation is significant at the 0.05 level (2-tailed)

** correlation is significant at the 0.01 level (2-tailed)

4. Regression analysis with the use of language input variables

This section will report on regression analyses which were carried out in order to put together the factors that were significant in the previous tests and explore their contribution to the main dependent variables. Just like in the case of socio-emotional variables, the language input variables affected L1 and L2 in a different way. Therefore, a number of different models, some for English and some for Polish were

created. All three elements of the language input: (1) Past English language input, (2) Extra Polish language input (Polish school attendance + visits to Poland), and (3) Current language exposure (English and Polish) were used as predictors of L1 and L2 test scores at T1 and T2. They were also combined with some significant demographic and socio-emotional variables.

4.1 English language

The exposure to English in the past was the main factor associated with the later English language proficiency together with factors like parents' age and current use of English influencing it at different research points.

4.1.1 Past language exposure and current language use (English) as predictors of L2 competence

The first regression analysis carried out was the analysis of the previous language exposure and the current use of English as predictors of the children's L2 score at T1. There was a correlation between the current L2 use and the children's previous L2 exposure. Children who were exposed to more English in the past, used more English at present ($R = 0.40, p < 0.05$).

There was a highly significant correlation between the children's English scores at T1 and the amount of their previous English exposure ($R = 0.62, p < 0.01$) [see Section 3.1.2 of this chapter]. Consequently, a hierarchical multiple regression was employed, and the variables were entered into the analysis according to their theoretical importance: language exposure in the past and current language use [Figure 6.2].

	R^2	Final β	$p <$	VIF	Tolerance statistics
English scores at T1	0.40				
Previous English exposure		0.57	0.01	1.12	0.84
Current use of English		0.13	0.30	1.12	0.84

Figure 6.2 Multiple regression analysis with English previous exposure and current language use as predictors of children's L2 scores at T1

The analysis showed that 40% of variability was accounted for by these two predictors ($R^2 = 0.40$). The F-ratio calculated with the use of ANOVA was: 30.48 for previous language exposure, and 15.83 for previous language exposure and current language use ($p < 0.01$).

At T2, less variability (20%) in the children's scores was attributed to the predictors ($R^2 = 0.20$), but the model was still highly significant ($F(2,47) = 5.88, p < 0.01$). The standardised β coefficients were: 0.35 for previous exposure ($t = 2.50, p < 0.01$), and 0.16 for the current language use ($t = 1.15$).

4.1.2 Previous language exposure, parents' education level and child's age as predictors of L2 competence

Once it was established that the previous language exposure was the most significant input predictor, the analysis was rerun with the addition of some socio-demographic factors in order to explore the individual contribution of each.

There was a correlation between the children's T1 English scores and their age ($R = 0.39, p < 0.01$). There was also a correlation between fathers' education level and the children's T2 scores. Therefore, these two variables (child's age and parents' education level) and the previous English language exposure combined with the current English use (English exposure and use) were included in the next multiple regression analysis [Figure 6.3].

	R^2	Final β	$p <$	VIF	Tolerance statistics
English scores at T1	0.41				
English exposure and use		0.55	0.001	1.27	0.79
Child's age		0.21	0.07	1.09	0.91
Parents' education		0.001	0.99	1.17	0.85

Figure 6.3 Multiple regression analysis with English exposure and use, child's age, and parents' education as predictors of children's language scores at T1

At T1, the predictors accounted for 41% of the variation in the children's English T1 results ($R^2 = 0.41$). The regression equation was significant ($p < 0.01$). F-ratio

calculated from ANOVA analysis was: 30.30 for English exposure and use; 17.70 for English exposure and use and child's age; and 11.57 for English exposure and use, child's age, and parents' education.

At T2, 21% of the model was explained by the predictors ($R^2 = 0.21$). The model was still highly significant ($p < 0.01$) and the F-ratio was 11.36 for English exposure and use; 6.54 for English exposure and use and child's age; and 4.28 for English exposure and use, child's age, and parents' education. The standardised β coefficients were: 0.38 for English exposure and use ($t = 2.63$), 0.16 for child's age ($t = 1.23$), and -0.01 for parents' education ($t = -0.09$). When parents' education was replaced by fathers' education at T2, the R^2 increased (to 0.25), indicating that 25% of the variation was explained by the English exposure and use, child's age and fathers' education variables. At both, T1 and T3 only the English exposure and use variable made a significant contribution to the model ($p < 0.01$).

4.2 Polish language

In Polish maintenance and acquisition the main role was attributed to the current language use. The current language use was in turn significantly correlated with the heritage cultural orientation of parents ($R = 0.30$, $p < 0.05$). The higher the parental score on the Heritage scale of the Acculturation Questionnaire, the more Polish their child used out of school time. The heritage orientation of parents was a significant predictor of their children's L1 use outside school.

4.2.1 Time in Poland, time in Polish school and current language use (Polish) as predictors of L1 scores

In regard to L2, a multiple regression analysis was conducted with all elements of Polish language input, i.e. Polish school attendance, time spent in Poland by the children and the current L1 use as predictors of the children's Polish scores. These were all L1 input variables and the main factors that were investigated in order to answer Research Question (4).

To analyse the Polish language score at T2, a regression analysis with the following predictors: present use of Polish, time in Poland, and time in Polish school was used [Figure 6.4].

	R ²	Final β	p	VIF	Tolerance statistics
Polish scores	0.12				
Current use of Polish		0.30	0.02	1.02	0.97
Time in Poland		0.05	0.72	1.01	0.98
Time in Polish school		0.15	0.25	1.01	0.99

Figure 6.4 Multiple regression analysis with extra Polish input and current language use as predictors of children's L1 results at T2

These predictors accounted for 12% of the variation in children's Polish score change ($R^2 = 0.12$). In terms of the model fit, F-ratio calculated from ANOVA analysis was: 5.50 ($p < 0.23$) for current language use; 2.79 for current language use and time in Poland; and 2.32 for current language use, time in Poland and time in Polish school. Only the current language use factor significantly contributed to the model.

At T1 the correlation coefficients were similar to those at T2 and the current language use variable was the only one contributing to the model. There was no correlation of any of these input variables with the children's change score, which was confirmed by the regression analysis.

4.2.2 Parents' subtractive language attitude and heritage orientation as predictors of extra Polish language input

There was a significant negative correlation between the extra Polish language input and subtractive language orientation ($R = -0.28, p < 0.05$). This language attitude was also negatively correlated with the time in Polish school $R = -0.34, p < 0.05$. This indicated that children of parents who obtained higher scores on the subtractive orientation scale received less additional input in Polish than the children with parents with lower subtractive orientation scores.

A multiple regression analysis of the contribution of this factor and parental heritage orientation to extra Polish language input indicated that the explanatory variables accounted for around 10% of the variation with $F(1,50) = 2.95$ and $p < 0.06$. Only the subtractive attitude made a significant contribution to the model.

	R^2	Final β	p	VIF	Tolerance statistics
Extra Polish input	0.11				
Parents' subtractive attitude		-0.28	0.04	1.00	0.99
Parents' heritage orientation		0.16	0.25	1.00	0.99

Figure 6.5 Multiple regression analysis with parents' subtractive language attitude and heritage orientation as predictors of the extra Polish language input

4.2.3 Heritage cultural orientation and current language use (Polish) as predictors of L1 scores

The last regression analysis was carried out in order to integrate the elements from the previous chapters (Chapter 4 and Chapter 5) with the findings of this chapter. This allowed a broader picture of the results of this study to be accessed and contributors that previously were explored separately to be analysed together.

The investigated relationship was the one between the heritage orientation, the children's present language use, and their L1 scores [Figure 6.6].

	R^2	Final β	p	VIF	Tolerance statistics
Polish scores at T1	0.11				
Current use of Polish		0.33	0.02	1.10	0.90
Parents' heritage orientation		0.006	0.96	1.10	0.90

Figure 6.6 Multiple regression analysis with heritage orientation and current language use as predictors of children's L1 scores at T1

To predict Polish T1 score based on the heritage cultural orientation and the present language use, a regression analysis was also calculated. The current language

use and heritage orientation predictors explained quite a small amount of the variation (11%) in children's T1 Polish score ($R^2 = 0.11$). In terms of the model fit, the ANOVA indicated that F-ratio was: 6.29 for present language use ($p = 0.015$), and 3.08 for present language use and heritage orientation ($p = 0.55$). The present language use was the only predictor that made a significant contribution to the model.

At T2, the correlation coefficients were: 0.31 for present language use, and 0.32 for present language use and heritage orientation. These two predictors accounted for 10% of the variation in T2 Polish language scores. The F-ratio was: 5.50 for present language use ($p < 0.05$), and 2.79 for present language use and heritage orientation. Again – the present language use factor was the only one contributing to the model. The standardised β coefficients were: 0.29 ($t = 2.09$, $p < 0.05$) for present language use and 0.06 ($t = 0.42$) for heritage orientation.

5. Summary of findings

Previous exposure to L2 appeared to be a factor of great importance as there was a high correlation ($p < 0.01$) between the children's pre-school contact with English and their English scores at both T1 and T2. The previous L2 exposure was a highly significant predictor of the children's L2 scores at the beginning and at the end of the study. The more English the children were exposed to before they started school, the better their English test results were. Since the children with previous exposure to English were at a different starting point than those with less previous exposure, their progress between T1 and T2 was significantly and negatively correlated with their pre-school contact with English. Moreover, their past exposure to English was affecting the present use of this language in the children's time after school. And this, in turn, was the factor influencing the children's L2 results at the beginning of their school education.

Unlike in the case of English, the children's Polish language scores were not greatly affected by the L1 input that they received outside of home. The only existing association found was the effect of the time spent in Poland on the girls scores. This

relationship only existed at T2, but it was highly significant. On the other hand, the current language use analysed as a separate factor was significantly and positively correlated with the children's English results at T1 and the children's Polish results at both T1 and T2.

6. Discussion

This chapter set out to ask the research question: "What is the role of engagement with a language in the language development of the 4 to 6-year-old children of Polish migrants to Scotland?". To answer the question fully, three language input sub-measures were identified and analysed: These were (1) Previous English language exposure (pre-school exposure); (2) Extra Polish language input (Polish school attendance + visits to Poland); and (3) Current language exposure (English and Polish use).

Previous exposure to English was a very important factor affecting the children's scores at T1 and T2. It was a significant predictor of the children's L2 scores. Its effect at T2 was slightly weaker than at T1 but the correlation with the amount of time a child spent exposed to English before starting school was still a critical one. However, the children who received less pre-school exposure to English progressed more between T1 and T2 because T1 was their starting point which is consistent with the learning curve theory (Jaspaert, Kroon, and van Hout 1986). They started with more skills therefore their improvement was not as visible as the children who had lesser English language competence at the beginning of P1.

To a lesser extent, the children's L2 competence was linked to their current language use. The more English they used after school, the more English skills they acquired. In relation to the type of language use, English Speaking to adults and Speaking to peers' scales were the ones that contributed most to the model, emphasizing the importance of social interactions. A possible explanation of why the Reading scale did not have any effect on children's language test score was that the children were read to by their parents who often did not speak English, and if they

did, it was not fluent or native-like English. As a result this scale's impact on the children's English competence was not significant.

The relation between the children's English skills and their use of English is another association that existed at T1 but disappeared at T2. Previous L2 exposure could play a role in explaining this as the children who had more contact with English before they started school, tended to speak more English in their free time. It is also worth noting that the correlation between the current L2 use and the children's L2 competence could be bi-directional, i.e. not only the children using more English after school received higher scores in their tests, but also the children whose English was better could have used more of it in their spare time.

The direction of a correlation between certain variables was reversed in the case of L1. In fact, in terms of the Polish language acquisition there was no significant effect of the extra language input. An exploratory analysis revealed that only one factor had some influence on the children's scores. It was their stay in Poland. However, this factor only affected the girls at T2. While the girls seemed to benefit from their time spent exclusively in Poland, for the boys it did not make a difference. This indicated that even though there is no significant difference between girls and boys in terms of their L1 and L2 proficiency, there is a significant difference between them in terms of language acquisition itself, in language input. Different activities girls and boys undertake while on holiday in Poland could serve as a possible explanation of this issue. Boys could possibly spend more time on activities involving physical interactions which would not involve a lot of verbal communication, such as playing football or computer games. Girls could spend more time chatting to their relatives who live in Poland such as grandparents, aunts, uncles, and cousins, focusing more on a social aspect of an activity.

A potential reason for this effect being significant only at T2 is that while the questionnaire was asking for the time "on average" spent in Poland in a year, the children at T1 generally might have travelled less than at T2 because of their age. At T2 some of them might have been staying in Poland for longer and possibly without their parents. The questionnaires for parents related to their current situation –

covering the period from the beginning of the study to the end of the study. The children's scores at T1 might have been affected by their situation from before their first assessment. Their second assessments were mainly affected by what was happening during the time between T1 and T2.

In regard to the Polish language use, the data regarding the children's language use outside of school shows that Polish is their dominant language in their home environment. The preference for using Polish after school was a significant predictor of the children's proficiency at T1 and T2. It was the only input factor that had a significant effect on the Polish language scores in the model consisting of all Polish language input variables. It was also a significant predictor of the children's language scores at T1 and T2 in the model with the use of the heritage attitude another predictor.

These findings support the results of Tsai et al. (2012) who also observed a significant correlation between the use of L1 and the children's L1 competence. The sub-scales having a significant relationship to the children's scores in Polish were Speaking to peers and Speaking to siblings. However, as mentioned before, in terms of the current language use, it is difficult to determine the direction of the influences between the children's language skills and their L1 informal use. The children may have obtained better language scores because they have used their language more, practising it, but it could be the other way round – they used more Polish because they felt more comfortable using it as a result of being better at it.

Although the language current use had a significant role in the children's Polish test results at T1 and T2, it did not influence the children's progress (or the lack of it, reflected in the change score). In other words – in spite of the fact that Polish is preferred language of communication in an immediate environment, its use does not secure its development. The findings of the current study challenged the notion that home language use is sufficient to maintain it. Although in the short term the language current use was linked to the language abilities of children, it was not linked to the long-term progress. A possible reason for the current language use not being correlated to the children's language development could be that a quantitative

aspect was the main aspect of language use explored in this study. The type of language use outside school was examined, but its quality was not.

Another reason for this could be that language use is a difficult to pinpoint phenomenon, it evolved and fluctuated throughout the children's initial school years. When the parents were completing the questionnaires, they might have taken into account a situation from a few months before without noticing recent changes. It is also possible that the amount of time between T1 and T2 was not long enough for some effects to become visible.

Why was the English exposure associated with the children's scores, but the Polish extra input was not? The reason for this could be that the English the children were exposed to before they started school was intense and, in some cases, they spent many hours with their formal care providers, while their Polish language input was somehow random and even if regular (Polish school) – not lasting long. On average, a child would spend 14 hours a week in a formal care environment where L2 was used.

Another explanation could be that the children who were exposed to English were younger than the same children who attended the Polish afternoon school and according to the theory of learning L2, young age is a factor facilitating the ease of L2 acquisition. However, this explanation does not stand in the light of this study where older children achieved significantly better L2 results than the younger ones.

The most likely reason for the lack of the influence of L1 input is that it was so modest that it could not have any substantial impact on the children's language development. Duursma et al. (2007) tested Spanish–English children in the fifth grade and noted that there is a difference between conditions necessary for development of L1 and L2. No extra use of L2 was necessary in order for the children to achieve proficiency in this language. In contrast, L1 required more support to be maintained – not only at home, but also at school. Similar conclusions were presented by Miękisz et al. (2016) where there was no correlation found between the L1 exposure and the L1 vocabulary scores, but there was a significant association between the L2 exposure and the L2 vocabulary scores. According to Mancilla-Martinez and Vagh (2013) the

native language use at home is not sufficient for maintaining it in a situation when a child lives in an L2 country. The findings of the study of Mueller Gathercole and Thomas (2009) with L2 speakers suggest that although acquisition of a dominant language does not require any special conditions, acquisition of a minority language requires much more input than just using it at home. Similarly, the current study suggests that while L2 schooling and immersion is enough to develop the children's L2, in terms of L1, even an extra input is not sufficient to prevent its attrition.

The language input received plays a very important role as events remembered by a bilingual are linguistically recreated in the language in which they occurred and were processed. Marian and Neisser (2000) conducted a study with English-Russian bilinguals. In the English part of the study they gave their participants English prompt words; in the Russian part of the study they gave them Russian prompt words. The participants were asked to describe an event from their autobiographical memory that the prompt word brought to their mind. Then they were asked to which language environment they were in when they acquired their particular memory. The authors found that their study participants were able to access more Russian memories when they were interviewed in Russian and more English memories when they were interviewed in English. Marian and Neisser (2000) concluded that bilinguals are able to retrieve more events that occurred in a particular language when the same language is used to recall them. Grosjean (2010) also supports the view that bilingual remember things better when they are recalled in the same language they were coded in. He sees it as a consequence of his complementarity principle. This phenomenon is called by Pavlenko (2009) a *language congruity effect*. However in the case of consecutive bilinguals this matter becomes more complicated, because for some period of their life they were more proficient in one of their languages and this proficiency possibly was a more important factor when coding the experience than its context. So perhaps some of their life experiences were not coded in the language of the context the event took place, but simply in the language that was dominant at this point of their life.

However, since reporting the past is easier in the language it was coded in, at later stages of their bilingualism, changing the language on the output and adjusting it to the listener might be too difficult a task for young children. It requires translating subject matter from the language it was coded in into another. It is much easier to convey the message the way it was remembered. When migrant primary school children come home from school and want to tell their parents what happened at school, many of them may find it too effortful. Reporting it in their native language may require an extra effort not many of them are ready for. Formal school language does not translate easily in the home context. This might be a reason for the amount of L2 input significantly affecting their L2 proficiency without the same being observed in the case of L1.

The next chapter, Chapter 7 is a discussion based on the findings of the thesis and it will summarize answers to the research questions. It will describe the relationships between parental cultural orientations and children's socio-emotional functioning and the indirect link between cultural orientations and children's language development. Chapter 7 also contains some suggestions regarding current policies in education and future research.

CHAPTER 7

GENERAL DISCUSSION

1. Introduction

The focus of this thesis was the language development of young migrant children from Polish families who represent a new, flexible, transnational type of migration. It was particularly salient to conduct this research because migration is a growing issue in all communities. The international migration phenomenon raises all sort of social issues and the issue of communication is a crucial one. The aim of the research conducted was to investigate how social, cultural and emotional factors affect the maintenance of the first language and acquisition of the second language in children of parents who typically adopt a modern approach to migration. There has been little research with transnational migrants as participants and in this respect this study was a novel one. Additionally, the thesis examined the above factors with the use of a longitudinal design, an approach not frequently chosen in previous studies. This design focusing on children's learning over time, was a key element of this research. It allowed the researcher to track the development of two languages and place this process within a context of social, cultural and emotional factors that might contribute to the languages' development or retention. The statistical testing of potential influences on the children's progress allowed predictors to be identified about the prospective situation. This helped identify the need to increase educational support or/and change some policies regarding bilingual migrant children, as the findings of this thesis indicated that retaining their heritage language and culture is psychologically beneficial.

Chapter 4 showed the L1 and L2 development itself. Chapter 5 examined the socio-cultural factors and Chapter 6 investigated the role of language input.

The purpose of this final chapter is to draw together the findings of the research presented in this thesis and discuss their implications. Section 2 of this chapter will

set out the answers to the thesis research questions and their contribution to the field. Then the focus will move to the link between parents' attitudes and children's socio-emotional functioning which did not feature in the research questions but proved to be a significant part of the research, additional to themes the study was initially designed to investigate (Section 3). The subsequent sections will consider the relationships between the explored variables (Section 4). Section 5 will present the limitations of the study. The next sections (Section 6 and 7) will present the implications of thesis findings and make recommendations for future research in the context of the current policies in language education, before the chapter is concluded with Section 8.

2. Answers to research questions

2.1 What is the rate and direction of development of L1 (Polish) and L2 (English) among the 4 to 6 year-old-children of Polish migrants to Scotland

What is happening with L1 and L2 in a situation of migration? This research demonstrated that children made a lot of progress in their L2 during a year and a half between the beginning of school (T1) and the second set of tests (T2). At T2 their English language scores were significantly higher than at T1. It may be concluded that school created an environment for L2 immersion where children were both learning about it and learning through it. As a result most children relatively quickly acquired the skill of communicating in L2. It has to be remembered the reason for a few children not improving their English between T1 and T2 as much as the others could be that their L2 competence at the onset of the study was already at a good level (the children with English speaking fathers).

On the other hand, during the same period the children's native language deteriorated, although it was used at home by all families participating in the research. For the majority, T2 Polish language scores were lower than their scores at T1. The findings of this research are consistent with existing literature. They support the conclusions of Wong-Fillmore (1991) that for a migrant child entering an

education system in another language, the risk of the loss of their first language is very substantial; they support the results of Mancilla-Martinez and Vagh (2013) suggesting that the use of L1 at home does not guarantee its maintenance. It is also consistent with the findings of Duursma et al. (2013) who demonstrated that using L1 with family was not enough to prevent it from deterioration. This would reinforce Edwards' (2008) view that L1 attrition cannot be avoided where there are only a few L1 monoglots in the child's environment. Another point made by Edwards (1985) is also valid - that a language can be preserved if it monopolises some domains where it can be used. The families who participated in the current study might not have enough domains reserved for L1 use only. Even within their family there were some children and adults who used L2. In the light of the results of the current research, the native language of migrants seems to be in a worse position for continuation than their L2. The feature typical for this research with a transnational migration population – flexibility of their migration patterns - played only a limited role in the migrant children's L1 maintenance. Travelling to their host country influenced the Polish scores, but this effect applied only to the girls. The language use at home at present was the greatest source of the language input.

These outcomes indicate that efforts should be made to encourage children to practise their first language and to discourage their parents from using L2 at home. Even if this advice is followed, the balance between L1 and L2 is very fragile and if it exists, it is there only for a very short time (Clark 2012; Edwards 2008). In families where one parent speaks one language, and the other – another, this balance can be kept for a while (Białystok 2001). However, when a child enters a learning institution adding a third source of influence to the equation, the balance is tipped towards the dominant society language. It is possible that the process of language attrition starts earlier, as soon as a child starts spending more time with people who are not their family members. The results regarding the relationship between age and L1 competence at T1 could be an argument supporting this suggestion. While older children obtained better results in English, there was no positive, normally expected correlation between the children's age and their Polish language test scores.

Another issue for this study was whether acquisition of L1 and maintenance of L2 were linked or independent. At T1 analysis showed that the children's Polish and English scores were negatively correlated, so that those who did better in English, did worse in Polish. However, this relationship disappeared between T1 and T2. The fact that the negative correlation between L1 and L2 appeared only at the beginning of school is very telling as it supports the view that there are no negative influences between languages. The evidence supports the claim that the development of L1 and L2 follow separate paths and languages on this acquisition level do not interfere with each other.

The findings of the current study do not contradict the evidence of authors who suggest that L1 and L2 influence each other and that the L1 development contributes to the acquisition of L2 (Cummins 1987; Danesi 1990; Pavlenko 2009; Skutnabb-Kangas and Taikmaa 1976), because at T1 most children were at the beginning of their bilingual journey. It is important to remember that according to Cummins' threshold theory (1979, 1987) there are threshold levels of language skills that bilingual children must attain so that they can benefit from their knowledge of L1. Another condition of positive transfer between L1 and L2 is passing an age appropriate level of L2 competence. When the difference in L1 and L2 relationship between T1 and T2 is taken into account, it is not unreasonable to expect that during the process of language acquisition the correlation between the two languages at some point will become a positive one. This would support Cummins' theory of developmental interdependence of languages (Cummins 1979, 1987).

These findings suggest, nonetheless, that the bilingual language acquisition is not a one-dimensional process where there is only one language that can be developed "undisturbed" and a choice has to be made, but a more complex system where proficiency in one language does not rule out proficiency in another. In practice it is not possible to learn as many languages as one could, because a learner's time is limited, but mastering one language is not bad news for another. Consequently, parents should not be concerned about their children being "overloaded" with languages. And migrant parents should not assume that keeping their native

language alive impairs their children's second language. On the other hand, parents who are concerned about their children's L1 should realise that it is not the acquisition of L2 or L3 itself that is hampering the development of L1, but other factors, such as input. These were investigated in the current study and will be raised again in the next sections.

2.2 Is acquisition of L2 and maintenance of L1 associated with parents' cultural orientation and language attitudes?

Are cultural orientations and language attitudes important in L1 and L2 acquisition/maintenance? It was predicted that the children of parents with high scores on the enculturation scale would have better scores in L1 and those whose parents had a stronger acculturation orientation would have higher scores in L2. Similarly, the expectation was that the children of parents presenting a maintenance language attitude would achieve better results in Polish and the children of parents presenting the subtractive language attitude would achieve better results in English.

In the current study the only relationship between the parents' cultural orientations and their children's language skills was the negative correlation between the heritage orientation and the L2 grammar outcomes. The heritage orientation was a predictor that made a significant contribution to the model explaining the children's English change score.

On the other hand, a significant positive correlation between the heritage culture orientation of the parents and the present use of L1 was observed. The heritage cultural orientation of parents had a significant effect on the current use of Polish [see Section 3.2.2 of Chapter 5]. In this respect these findings differ from the results of Tsai et al.'s (2012) study, but do not contradict their conclusions. The suggestion of Tsai et al. (2012) that there is some parental influence on the language use was confirmed in this study, because parental cultural orientations were linked to the children's results through the language input (the current language use). Similarly, this study's findings also indicate that parents' cultural orientations are not linked to their children's L1 competence directly, but they affect the children's language

acquisition through the amount of L1 input. This idea is evident in other authors' studies (Hakuta and D'Andrea 1992; Paradis 2009). These results are also consistent with findings indicating that practical aspect of parents' communication with children is associated with their L1 skills (Arriagada 2005); and that children's L1 skills are positively influenced by heritage culture (Phinney et al. 2001, Zhang and Slaughter-Dafoe 2009) and parental policies regarding language use (Schwartz 2008). Moreover, in the present study the current use of L1 was the only input factor related directly to all children's (boys and girls) L1 proficiency. In the study of Tsai et al. (2012) the use of the native language was also predictive of the children's L1 competence and there was no negative effect of this factor on the children's L2. Their findings indicating that the practical language use is more important than parental attitudes in terms of preventing L1 attrition are also supported by this research.

The current research shows that there is an indirect connection between parental acculturation patterns and the development of the two languages of their children and that they are linked through the language input. The cultural orientation of parents also affects their children socio-emotional outcomes – this time in a direct way [see Section 3 of this chapter].

In regard to the parental language attitudes, the only negative association found was between the subtractive language attitude and the amount of L1 input children receive. The subtractive language attitude of parents was a predictor of their children's extra Polish language input. Therefore, the findings of the current study support the results of some authors who demonstrate that parental attitudes towards L1 are predictive of the L1 input, affecting the children's native language competence (Hakuta and D'Andrea 1992; Paradis 2009). However, it needs to be noted that the extra Polish language input was not a significant factor in this study.

In the current study a significant, positive correlation between the heritage and the mainstream culture orientation was found, which was something relatively unexpected. The respondents who identified strongly with the culture of their origin also tended to accept and incorporate into their life many aspects of the dominant culture. This is evidence that the two different cultural attitudes do not exclude each

other. This phenomenon might be a result of specific features of the Polish migrant group and a reflection of their way of life characterised by transnational migration. Transnational migrants who are in touch with both their cultures might not feel that they have to choose one over the other. Moreover, they might not perceive their relationships with heritage and dominant cultures as cognitively or affectively conflicting. As a result they do not feel the pressure to reject either of them and no compromise is necessary. This is consistent with the two-dimensional approach and the findings of Berry (2005), Ryder et al. (2000) and Tsai et al. (2012) indicating that acculturation and enculturation are attitudes coexisting in parallel. In particular it supports the evidence from Tsai et al. (2012) where Chinese and American parental cultural orientation were also positively correlated.

2.3 Is socio-emotional functioning linked to L1 and L2 acquisition/maintenance?

What is the link between L1 and L2 acquisition/maintenance and children's socio-emotional functioning? There were some correlations found between the children's L1 and L2 scores and the Emotional difficulties scale of the SDQ. In the case of both languages these correlations only affected one scale of the test (the Information scale in English and the Productive Language scale in Polish). The children who had low scores on the Emotional difficulties scale received higher scores on the English Information scale, which was based on spontaneous description of events depicted on the test cards. Possibly the scores of the children who were not worried about the lack of grammar correctness in their replies were higher than those who were afraid of making mistakes in L2. The children with low scores on the Emotional difficulties scale also received higher scores on the Polish Receptive Language scores, which were based on recognising objects. The association between the children's emotional problems and their Receptive Language scores was highly significant. This could be explained through the fact that this part of the test was dichotomous, there was no description required but a one-word answer which could be correct or not. This could have made some children more concerned about giving a wrong answer.

These correlations illustrate some small relations that are unlikely to reflect a general trend among bilingual children. However, the higher score in English at T1 constituted a predictor of a positive change in prosocial behaviour. The reason for this could be that the children with more fluent English at the beginning of their school education could be more socially active and make more friends than those whose English at T1 was less fluent. On the other hand, there was also a positive correlation between the children's prosocial behaviour score and their Polish Productive Language results. The explanation could be that more prosocial, other people-oriented children were better at producing speech as they would have practised this skill more frequently.

The evidence of Dawson and Williams (2008) that children's socio-emotional difficulties and their L2 skills are correlated has not been supported by the findings of this study. On the other hand, they are consistent with the results of the study of Liu et al. 2009 suggesting that there is a link between children's socio-emotional adjustment and their L1 maintenance.

The findings of the current study suggest that some components of a language proficiency, regardless of the language, are positively correlated with some variables of socio-emotional adjustment.

2.4 In 4 to 6 year-old-children of Polish migrants to Scotland is acquisition of L2 and maintenance of L1 associated with socio-demographic factors?

2.4.1 Child's place of birth and family time in Scotland

Both the children's place of birth and their time in Scotland influenced their L1 and L2 competence. At T1, children who were born in Poland received higher L1 scores at T1 and children who spent more time in Scotland received lower L1 scores. Just like some other effects, these two relationships disappeared between T1 and T2. On the other hand, the time in Scotland was a significant predictor of the children's English scores at both T1 and T2. Unlike the place of birth, the association between the time in Scotland and the children's L2 skills over time became stronger (R increased from 0.30, $p < 0.05$ to 0.34, $p = 0.01$). This indicates that factors affecting language

acquisition of school children are different than those affecting their language acquisition before they enter the school education system. The time in Scotland affects language input a child receives and there has been an established link between input in a particular language and children's language ability. Longer time in Scotland was associated with children retaining less Polish only at the beginning of the study. After a while the fact that the study population represented the new flexible migrant families was overruled by the fact that they do spend most of their time in Scotland immersed in English language environment. After a while it did not matter if a migrant family was less or more mobile, staying in L2 country longer, as they all were at similar risk of losing bilingualism. Linguistic input has proved relevant in all previous studies and this research is not different from them in this respect.

2.4.2 Parents' education level

The family's socio-economic status in this study was limited to parental education level, as this is more culturally recognizable in the Polish culture. It has to be noted that the SES investigated in most of the cited studies is not identical with parental level of education and these two variables might differ significantly. Parents' education had a significant role in the children's L1 and L2 competence. Parents' education level was a significant predictor factor in the model explaining the L1 scores at T2 [see Section 6.2.1 and Section 6.2.3 in Chapter 5]. Mothers' education level was a significant predictor of the Polish language change (the development of L1 between T1 and T2). Fathers' education level had a significant effect on the children's L2 results at T2.

In L1 the positive correlation between the parents' education and their children's scores was highly significant at all times (T1 and T2). These findings are consistent with the results of Miękisz et al. (2016) who concluded that mother's education level was associated with children's better L1 proficiency. It does not support the findings of Phinney et al. (2001), where higher Mexican American parents' SES was linked to less effort to maintain a native culture and lower L1 competence in their adolescent children and the findings of Arriagada (2005) that native language use and proficiency were negatively correlated with parents' education. Differences between the current

study's sample and participant groups in the quoted studies could constitute a possible reason for this. Phinney et al.'s (2001) study regarded adolescents, and Arriagada (2005) drew her conclusions from a group containing second and third generation migrants. The results of the current study also contradict the evidence presented by Boyd (1986) who linked low status of parents' occupation to positive bilingual outcomes. Here a potential reason could be the fact that low status of migrants' occupation does not necessarily mean that their education level is low.

The findings are consistent with some of the findings of Hoff et al. (2018) that suggest that the link between mothers' education and the children's language proficiency is language specific. In other words, the children's L1 skills are affected by their mothers' education in L1 and their L2 competence is affected by their mothers' education in L2. This study provided evidence that there was an association between the parents' education and their children's L1 proficiency, as well as their L1 progress. All of the parents' education took place in the L1 context, therefore their education mainly influenced their children's L1 performance. The current study's results do not support the findings of Scheele et al. (2013), related to L1, because in the current study the parents' education level did not affect the L1 input received by the children. However, the findings regarding L2 were similar in both studies.

In the current study the mothers' and fathers' education levels were explored separately. Interestingly, mothers and fathers differed in the way their education influenced their children's skills. Mothers' education was the most important factor in terms of their children's L1 acquisition. One of the most important findings was that the children of more educated mothers also showed more improvement in their Polish scores at T2 in comparison to T1 because this was the only factor associated the children's native language progress.

In regard to L2, there was also a correlation between the parents' education and the amount of time their children were exposed to English before they started school. This was another way the parents' education affected their children's L2 scores, as there was a very strong link between the previous English exposure and their L2

competence. However, this correlation also existed only due to the contribution of the fathers' education variable.

The parents' education level was also influencing their own cultural orientation scores and this correlation was negative. More educated parents received lower scores on both the heritage and mainstream scale than the parents with lower education levels. The difference between mothers and fathers was also noted in the cultural orientation domain. Mothers' education was the variable that mainly contributed to the negative correlation between the parents' education and their mainstream orientation. Fathers' education was the factor that decided the negative correlation between parental education level and the heritage orientation.

The role of SES in language differs between cultures (Phinney et al. 2001) and it is based on various factors; parents' education level is just one of its components. Moreover, mothers and fathers differ in their influence on their children's L1 and L2 competence. Further research is required within the same cultures and with the use of the same variables in order to obtain more information regarding the link between socio-economic factors and children's language acquisition in a situation of migration.

2.5 What is the role of language input on language acquisition?

It has been long established that language input is an important factor in language acquisition. In this study the focus was on language acquisition and language maintenance in bilingual children in a situation of migration.

It needs to be noted that the amount of language input a child receives is almost always greater in one of the two languages to which they have been exposed. As Keller, Troesch and Grob (2015) put it: "the language input is distributed over two languages in bilingual children resulting in less input for each of the languages in comparison to the input among monolingual peers" (Keller et al. 2015, p.2). This is a natural consequence of a limited time and space a child functions in. Not only the input children receive is rarely distributed evenly, but also the process of this distribution is rarely stable. Its distribution in L1 and L2 depends on many factors.

Some of them, such as subtractive language attitude, parents' education and heritage cultural orientation were investigated in this study and it transpired that they were significant.

In terms of the L2 input, the results of the study by Schwartz and Shaul (2013) have been confirmed by this study – school environment is the crucial factor in language acquisition in school children. The findings of the current study suggest that the previous L2 input the children received also played a very significant role in their L2 development. Previous English use was a highly significant predictor of the children's English scores in the regression equation model with the use of parents' education level and children's age as other predictors. As regards the present English language use at home, it was positively correlated with better L2 scores at T1, but this correlation was not observed at T2. Again, a potential reason for this could be that the school context of L2 acquisition was a much more powerful determinant of the children's English skills at T2. Also, in the case of the pre-school English language exposure, its effects were much weaker at T2 than at T1, potentially being moderated by the same robust school education factor.

In regard to the children's L1, unlike in the study of Schwartz and Shaul (2013), in the present study only one component of the language input (current language use) played a significant role in the children's L1 maintenance. It was the only predictor of the children's L1 scores at T1 and T2 contributing significantly to the model with the three components of the Polish language input (time in Poland, Polish school and current language use) used as other predictors. The difference between Schwartz and Shaul's (2013) study and this one regarding L1 could occur because the bilingual children in their study were attending a bilingual pre-school which constituted their formal education/care. The L1 education of the children in the current study involved a few short lessons per week, therefore there is a great difference between the quantity and the quality of linguistic input involved in these two studies. The findings of this study are consistent with the results of the study of Miękisz et al. (2016) demonstrating that the L1 input was not significant. The research conducted by Haman et al. (2017) was conducted in a very similar linguistic environment to the one

of the current study. However, this study did not confirm the results of their study. The children's scores were independent of their extra Polish lessons in the Polish afternoon school. The only correlation that existed between the children's L1 competence and the amount of input they received in this language was the link between the time spent in their native country and the girls' L1 results. The reason for the non-significance of L1 input in the whole study sample could be that the Polish language input was simply insufficient.

The evidence collected during the language assessments indicated that the school environment played a very important role in children's linguistic development. This could be linked to the amount of time the children spend in school. Assuming that children are at school for around 6 hours per day and that a day of an average 6-year-old consists of 12 hours, half of their day is spent at school. However, not all remaining time outside school is spent in a Polish speaking environment, due to the children's various after school activities and their social activities with English speaking peers. The findings suggest that the L1 home input is not enough to keep the balance between the children's two languages, as with time their L1 falls behind.

On the other hand, the time at school seems to be the most crucial time of a child's day. There are several reasons for that. The hours that a child spends at school are the most valuable ones in terms of learning, because children's capacity to acquire knowledge and new skills fluctuates throughout the day. Their time spent at schools is the time of higher quality, because the day is just starting. Their school time is often used in a more efficient and constructive way than their time at home, where they arrive when they become tired and sometimes could be overstimulated.

Moreover, school is a place where pupils learn new words and expressions every day, while home is often a place where routines, and linked to them repetitive linguistic patterns dominate. Not only the content of what children are learning at school is new, it is also different in its quality. It is usually more academic than what they encounter during interactions with household members, simply because certain teaching tasks are automatically delegated by parents to teachers, as part of their role. Additionally, children's time at school is also full of interactions with other

people whether they are teachers, peers or school personnel. There is no escape from communication with other people there. At home, children can sometimes avoid speaking to their family altogether, but functioning at school is based on pupils' ability to receive and share information. Some of the children's time at home is used on activities that sometimes might not even involve any social interactions, such as playing computer games, showering, brushing their teeth, etc. And some of their activities are actually almost an extension of their school life, such as doing their homework or searching for information on a given subject on a computer. Some, if not most, after school activities require using L2, cutting off an extra chunk of the children's L1 time. All the above-mentioned external influences could enhance the children's L2 learning indicating that the frequency alone does not account for successful acquisition of a language.

The results of this study suggest that the mere experience of having contact with one language at home and with another in an academic environment is not sufficient, if a desired outcome is a "fully" bilingual young person. Hoff et al. (2012) suggest that 20% is an absolute minimum of input for a child to be able to use a language. However, as the current study suggests, in practice, in order for a child to be proficient in two or more languages, more input and effort is required. According to Haman et al. (2016), despite the evidence that L1 input in a situation of migration does not close the gap between monolingual and bilingual, ensuring that children are exposed to L1 and providing chances of practising the use of L1 is still beneficial to their linguistic development.

In relation of the quality of the linguistic input, this study is consistent with the Williams and Thomas's (2017) findings suggesting that the more interactive language-related activity (even if it is watching TV) the more benefits for a language learner. This study also indicates the most interactive of all language acquisition contexts: emersion in a native language environment was the most supportive in terms of L1.

The current study's results also indicated that parental attitudes contributed to the amount of language input children receive. Previous studies (Arriagada 2005; Hakuta and D'Andrea 1992; Paradis 2009; Tsai et al. 2012) demonstrated that positive

L1 attitudes affected the children's L1 competence through the amount of L1 input. In the current study some parents' attitudes (heritage orientation and subtractive language attitude) were also linked to the L1 input provided to their children. The parents' subtractive language attitude decreased the chances of a child receiving extra L1 input and the parents' heritage cultural orientation increased the chances of a child using more L1 during their time outside school.

The current study implies that some recommendations should be made and communicated to Polish families with school children, particularly those starting school. Families should be informed that without extra effort on their behalf their children's L1 is likely to decrease. Advice and practical strategies regarding the ways to maintain and develop L1 at home should be provided to parents. For example, families could make sure that all stories are read in L1, the children watch programmes in L1, and that L1 is used while writing texts, emails, and letters. Parents need to be reminded that they are the best equipped educators when it comes to developing and introducing their children to new and more advanced vocabulary in L1. Discussing newly acquired school knowledge in L1 might be a difficult task but it will help bring bilingual children.

3. What is the link between parental cultural orientation and children's socio-emotional functioning?

Although there was no direct link between the children's language acquisition and their socio-emotional functioning, there was a significant association between their socio-emotional functioning and their parents' cultural orientations. Similarly to the children's L1 and L2 competence, the parental cultural orientations were negatively correlated with their children's socio-emotional problems. This correlation existed regardless of parental preference of culture. Both high scores on the parents' acculturation scale and high scores on their enculturation scale were negatively correlated with the children's difficulties which is consistent with the two-

dimensional approach to acculturation [see Section 3.5.2.2 in Chapter 2] represented by Berry (2005), Ryder et al. (2000), and Tsai et al. (2012).

Berry et al. (2006) indicated that psychological and sociological adaptation is correlated with the type of acculturation of a migrant. In their study the diffuse profile (characterised by marginalisation) and the national profile (characterised by assimilation) were both negatively correlated with high sociocultural adaptation. The ethnic profile (characterised by separation) contributed positively to a migrant's psychological adaptation, but negatively to their sociocultural adaptation. Only the integration profile (which occurs when a migrant seeks both cultural maintenance and interaction with the dominant culture) was positively correlated with good psychosocial functioning. Berry et al.'s (2006) findings suggested that a situation when a migrant is involved in both native and dominant cultures is beneficial in terms of promoting better psychosocial adaptation, while avoiding involvement in either culture reinforces the feelings of confusion and is associated with worse psychosocial adaptation. They also linked the ethnic orientation with more positive outcomes than the preference towards the host, dominant society (Berry et al. 2006). The findings of the current study support Berry's (2005) results regarding the benefits of the integrational orientation which leads to psychological well-being in migrant families – parents and their adolescent children.

In the current study the heritage cultural orientation was a predictor of fewer psychological difficulties of children measured at T2. These findings demonstrate that being attached to the native country culture (heritage orientation) and accepting the culture of the host country (mainstream orientation) are both constructive and healthy attitudes that influence the children's behaviour positively. This is a reflection of Berry et al.'s (2006) integration orientation. These results are also consistent with other studies which indicate that both acculturation and enculturation are correlated with positive adjustment in children (Calzada et al. 2009).

Additionally, the children of parents with strong heritage orientation turned out to be more prosocial – this correlation was very strong. The parents' heritage culture preference was also associated with their children's improvement in prosocial

behaviour between T1 and T2. This confirms the evidence of studies that better adjustment is linked to heritage cultural orientation (Castigan and Dokis 2006, Chen et al. 2014).

The above indicates that parents' valuing of the native culture is linked to the children's better functioning and their prosocial attitude. In families where the past practices and traditions are not rejected as something outdated, there are perhaps more positive messages conveyed to the children which in turn make them less stressed, more content and happier about themselves. A situation of migration constitutes a context for comparison and criticizing either native or host culture, or both. Open expression and hidden messages reflecting parental negative attitudes, may be observed by children and influence them adversely, as they cannot help being part of and possibly identifying with both cultures, particularly when they are so-called transnational migrants. Respecting the culture of the country of origin by parents gives children more self-confidence and potentially increases their self-esteem, letting them develop their social skills (and become more prosocial) without fear of being rejected by the host country society.

Generally for a migrant child staying bilingual is the optimal option in terms of their socio-emotional functioning. In spite of this, evidence from this and other studies (Haman et al. 2017; Tsai et al. 2012) also indicates that it is very difficult to prevent the attrition of non-dominant language [see Section 2.5 and Section 7].

4. A net of relations

Figure 7.1 presents the model presented previously, this time with marked results. All parameters marked on this final model were significant at $p < 0.05$. Analysing these results, it is important to remember that some of the data are correlational and do not present causal relationship.

prosocial behaviour with the first affecting the latter. There was no direct association found between the parental attitudes and the children's socio-emotional functioning.

This indicates that the relationships between language development and socio-demographic, affective, and input factors is based on an interplay of all investigated variables and the influence of each particular variable can only be established keeping in mind that they exist within a wider context.

5. Limitations of the study

This study had some limitations that possibly could be eliminated in the future. The group of participants used in the study allowed some analyses to be carried out but sometimes it proved too small to be split into smaller groups. A bigger sample would be more representative and would make it possible to explore more of its characteristics. However, recruiting the study participants was a great challenge. The schools that were approached usually were helpful and provided a lot of assistance, but they also acted as gate keepers and often perceived the participants (children and migrants) as very vulnerable and requiring their protection. This approach was rarely presented by their parents. However, because the research was advertised through schools, taking into consideration their vision of their role was inevitable. Future research could approach the issue of recruitment in a different way and carry out the recruitment through different channels.

In terms of the methods used in the study, the main difficulty was to find an already validated measure of the language attitude. Eventually a new one was created. The advantage of this was that it could be designed specifically for the particular group the research was concerned with. There were also some limitations of having to use it, because it was never standardized with the use of a larger sample.

6. Future research

There is scope for much more research in the area of L2 acquisition and L1 maintenance in migrant bilingual children. The findings of the study indicate that the

next step could be exploring whether it would be possible to increase the input of L1 among the bilingual children. The practical implication of the findings of this study could be the increase of L1 support for parents and teachers. This could involve interventions in school and organizing workshops for teachers and parents regarding the work with bilingual migrant children. Parents could be supported in terms of their access to resources and information on how to maintain their children's native language at home. The purpose of these projects would be increasing awareness regarding the fragility of L1 in a dominant language context and its value in a society.

Exploring further the link between parental attitudes and their children's socio-emotional functioning is another path that could be followed. This study confirmed that there is a link between parental cultural orientations and children's emotional health.

It would be beneficial and novel to find out whether the English and Polish language results of bilingual children living in Poland would be similar to those of Polish children living in Scotland. Does the English language have qualities that Polish does not and would prevail even in a non-English speaking environment or do specific conditions need to be met in order to maintain any language that is not commonly used? It is possible that it is not children's language competence that helps them prevent the language attrition, but their interpreting skills which play a role in their L1 maintenance. As the children who participated in this study receive most of their education in L2, they had to translate whatever they wanted to say into another language – the one they are using with their parents, which is a very difficult task for a young child; it is very tiring and energy-consuming. The issue of “effortful nature” and “cognitive load” of translating between languages carried out by bilingual children has also been noticed by Anderson et al. (2016). Most children prefer to convey any messages without having to translate them. The task of translating is often such an effort that they may eventually decide not to talk much to their parents about their school life. In consequence, their communication and native language suffers, and language attrition progresses. It would be beneficial to explore whether

this could be a potential explanation for a rapid language attrition process in a situation of migration.

7. Epilogue

Bilingualism is sometimes only a temporary, short-living phenomenon among migrant children, and in unfavourable circumstances, within a relatively short period of time, it may be replaced with dominant-language monolingualism (Clark 2012; Cummins 1979, Skutnabb-Kangas and Taukomaa 1976).

According to Grosjean (2010), when a bilingual person forgets a language they often experience feelings of remorse or even guilt simply because they become conscious of the “loss” that occurred without their full awareness. Regardless of whether this view is accepted or not, no language attrition is a developmentally positive and constructive phenomenon - it is a loss. On the other hand, having a knowledge of two or more languages gives to an individual benefits that cannot be overlooked. These benefits should not be underestimated and support for native languages of migrant children should be provided.

Maintaining more than one language is a difficult task and depends on many social factors, not only on a child’s family, but also on educational policies, school’s strategies, and approaches of educators. Bilingual children’s language development depends on support they receive from their families and institutions. However, it is crucial to teach governments and educators how to support in the right way. It is important that they do not come from a position of power and that they value linguistic pluralism. Promoting understanding of multilingual matters will affect developmental diagnostics of bilingual children and have a practical impact on working with them; in addition, it will support development of empathy across cultures, as bilingualism itself does.

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APPENDIX 1

RECRUITMENT INFORMATION AND CONSENT FORM - ENGLISH

PARENTS

INFORMATION SHEET

The influence of social and family factors on the development of the first and second language in Polish children who become bilingual as a result of migration

Dear Parent or Guardian,

Who am I?

My name is Agnieszka Kwiatkowska. I am a PhD student in the School of Education of the University of Edinburgh conducting research on the development of Polish and English language in Polish children who arrived in the UK as a result of migration. Some of you might know me already from my work as an interpreter for the NHS and Edinburgh City Council. I would like to invite you and your child to take part in my study. The university is offering the families a small thank you in recognition of their help with the project.

What is the research for?

The research seeks your opinions and attitudes towards your life in the UK, Polish and English language and culture. The study is also interested in how children develop their native and their second language.

What I would ask children to do?

I would ask children to participate in Polish and English language assessments at the beginning and at the end of their school year (in October 2014 and in June 2015). These will take place in the children's schools and should take no more than 30 minutes. I will do my best to avoid interrupting important lessons. The children's answers will be marked on an answer sheet; I will do everything to keep the children stress free and will not insist on receiving their answers if they feel uncomfortable.

What I would ask parents to do?

Parents who take part will be asked to complete three short questionnaires (one about acculturation, one about language attitudes and one about children's adjustment) in their own time. This should not take more than 10-15 minutes.

Will people who see the research be able to identify the parent or their child?

No. Any information given as part of this research will be **strictly confidential**. When reporting on research findings we will make sure that it is anonymous and that no

information is given that would allow anyone reading it to work out who participants are. The child's school will not be informed about the results of their assessment.

How will the research be used?

This research will be used as part of my PhD thesis and publications. All questionnaires and assessments results will be deleted as soon as they are no longer being used for academic purposes.

What happens if a parent or a child changes their mind after giving their permission for the study?

Participation in the study is **completely voluntary** and will not affect in any way the child's education. All participants (including the children) will have the right to **withdraw their consent** at any time during the project.

Contact information

If you would like to ask any questions before deciding to take part please contact me on my mobile: 07719401824 or by email to: s1061631@sms.ed.ac.uk

Please return the consent form to the school office

CONSENT FORM

PLEASE CIRCLE YOUR ANSWER (YES OR NO) TO THE QUESTIONS BELOW

I have read the information sheet	YES	NO
I have had a chance to think about it and to ask questions about the research study	YES	NO
I understand that I can choose whether me and my child take part. I do not have to agree	YES	NO
I understand that I can change my mind at any time	YES	NO
I agree to my child taking part in this project	YES	NO
I would like a report of the study when it is finished	YES	NO
I am interested in the results of my child's test	YES	NO
I agree to the storage of my child's information until the study is finished	YES	NO

Child's name.....

*Parent's/guardian's name Parent's/guardian's tel.no.....**

Parent's/guardian's signature Date.....

If you would like me to send you a mini report, please give your address:

Parent's/guardian's address.....

**Please note that I only need you telephone number if you would like me to notify you about the results or if your child is going to attend a different school next year.*

Thank you for your time

APPENDIX 2

RECRUITMENT INFORMATION AND CONSENT FORM – POLISH

INFORMACJE DLA RODZICÓW

Wpływ społecznych czynników na rozwój ojczystego i dodatkowego języka u polskich dzieci, które stały się dwujęzyczne na skutek migracji rodziny do innego kraju.

Szanowny rodzicu/opiekunie!

Kim jestem?

Nazywam się Agnieszka Kwiatkowska. Niektórzy z Państwa mieli już mnie okazję poznać, ponieważ od 10 lat pracuję jako tłumacz dla służby zdrowia. W ramach moich studiów doktorskich na Wydziale Edukacji Uniwersytetu w Edynburgu prowadzę badania nad rozwojem języka polskiego i angielskiego u polskich dzieci, które przyjechały do Wielkiej Brytanii w wyniku migracji. Chciałabym zaprosić Państwa do wzięcia udziału w moim badaniu, pierwsza jego część zabierze Państwu około pięciu minut, druga około piętnastu. W podziękowaniu dla rodzin za wzięcie udziału w projekcie Uniwersytet oferuje mały upominek dla dziecka, a dla rodziców drobną rekompensatę za poświęcony czas.

Czego chcę się dowiedzieć?

Podczas badań chciałabym poznać Państwa opinie i postawy w stosunku do życia w Wielkiej Brytanii, polskiego i angielskiego języka oraz kultury. Interesuje mnie również to, w jaki sposób dzieci rozwijają swój ojczysty język i język dodatkowy i jaki ma to wpływ na ich funkcjonowanie w szkole.

O co poproszę dzieci?

Na początku i na końcu roku szkolnego (w październiku 2014 i w czerwcu 2015) poproszę dzieci, aby wzięły udział w ocenie ich poziomu językowego (zarówno języka polskiego, jak i angielskiego), która odbędzie się w ich szkole i nie powinna zająć więcej niż 30 minut. Odpowiedzi dzieci będą zapisywane na arkuszu odpowiedzi. Dzieci nie stracą żadnych ważnych lekcji, zapytam je indywidualnie, czy chciałyby odpowiedzieć na pytania sprawdzające ich poziom językowy i nie będą musiały udzielać odpowiedzi, jeśli będą miały z tym kłopot. Brak znajomości angielskiego u dziecka nie stanowi problemu. To, w jakim kraju dziecko się urodziło nie ma znaczenia.

O co poproszę rodziców?

Rodzice, którzy wezmą udział w badaniach zostaną poproszeni o wypełnienie trzech krótkich kwestionariuszy (na temat orientacji kulturowej, postaw językowych oraz

funkcjonowania dziecka w szkole). Kwestionariusze można wypełnić w dowolnym czasie – ich wypełnienie nie powinno zająć więcej niż 20 minut.

Czy ktoś będzie mógł zidentyfikować rodziców i dzieci na podstawie wyników badania?

Nie. Wszelkie udzielone w ramach badania informacje będą poufne. Przy opisie wyników badań upewnimy się, że są one anonimowe i że nie będzie tam żadnych danych, które pozwoliłyby osobie czytającej na ich temat odgadnąć kto brał udział w badaniu. Szkoła dziecka nie otrzyma informacji na temat wyników jego oceny.

W jaki sposób wykorzysta się wyniki badań?

Wyniki tych badań zostaną wykorzystane jako część mojej pracy doktorskiej oraz związanych z nią publikacji. Wszystkie wypełnione kwestionariusze i testy zostaną zniszczone, gdy tylko zostaną wykorzystane dla celów naukowych.

Co jeśli rodzic lub dziecko zmieni zdanie po udzieleniu zgody na wzięcie udziału w badaniu?

Udział w badaniu jest całkowicie dobrowolny i w żaden sposób nie będzie miał wpływu na edukację dziecka. Wszyscy biorący w nim udział (łącznie z dziećmi) mają prawo do wycofania swojej zgody w każdej chwili podczas trwania projektu.

Kontakt

Jeśli mają Państwo jakieś pytania proszę o kontakt pod numerem telefonu: 07719401824 lub mailowo: s1061631@sms.ed.ac.uk

Po wypełnieniu prosimy o zwrócenie strony z pisemną zgodą do szkolnego sekretariatu

PISEMNA ZGODA

PROSZĘ O ZAZNACZENIE PAŃSTWA ODPOWIEDZI (TAK LUB NIE) NA PONIŻSZE PYTANIA

Przeczytałem/przeczytałam informacje na temat projektu.	TAK	NIE
Miałem/miałam możliwość, aby przemyśleć decyzję i zadać pytania na temat badania.	TAK	NIE
Rozumiem, że decyzja na temat tego, czy ja i moje dziecko ma wziąć udział w badaniu należy do mnie i nie muszę się zgodzić.	TAK	NIE
Rozumiem, że w każdej chwili mogę zmienić zdanie.	TAK	NIE
Zgadzam się, aby moje dziecko wzięło udział w projekcie.	TAK	NIE
Chciałbym/chciałabym otrzymać ogólne wyniki badań po ich zakończeniu.	TAK	NIE
Jestem zainteresowany/ zainteresowana tylko wynikami testu mojego dziecka.	TAK	NIE
Zgadzam się na przechowywanie informacji dotyczących oceny poziomu językowego mojego dziecka do momentu zakończenia badań.	TAK	NIE

*Imię i nazwisko rodzica/opiekuna Nr tel. rodzica/opiekuna.....**

Podpis rodzica/opiekuna Data.....

Jeśli chcieliby Państwo otrzymać raport z badań, proszę o podanie swojego adresu:

Adres rodzica/opiekuna.....

**Proszę o podanie numeru telefonu, jeśli jesteście Państwo zainteresowani wynikami badań albo jeśli dziecko będzie chodziło do innej szkoły w przyszłym roku*

Dziękuję za Państwa pomoc i poświęcony czas

APPENDIX 3

INITIAL LETTER TO SCHOOLS

Dear Sir/Madam,

My name is Agnieszka Kwiatkowska. I am conducting a PhD research project at the University of Edinburgh into bilingualism in Polish P1 children. I am writing to ask if your school would be willing to participate in my study. Please find attached the information and consent forms for parents which explain in detail what the study involves (there are two versions of forms – one in Polish and the other in English). The English version is mainly for your information and reference, but if you would like some more information please do not hesitate to contact me on 07719401824. Children taking part in the study have to be Polish and attending P1. I'd be happy to carry out the project even if there is only one child. Please let me know if you are able to participate in the project and if you are happy to distribute the forms among the Polish parents. It's vital to the research that the first assessments are done in October. I have permission from Edinburgh City Council and Edinburgh University Ethics Committee.

Your help with this would be so useful and much appreciated.

Kind regards

Agnieszka Kwiatkowska MA (Hons)

APPENDIX 4

RECRUITMENT POSTER FOR POLISH FAMILIES

Szanowni Państwo!

W ramach moich studiów doktorskich na Uniwersytecie w Edynburgu prowadzę badania nad dwujęzycznością dzieci, które uczęszczają do pierwszej klasy brytyjskiej szkoły (P1). Poszukuję ochotników wśród polskich dzieci w tym wieku i ich rodziców (oboje rodzice muszą być Polakami).



Podczas projektu zostanie sprawdzony poziom językowy dzieci (zarówno angielskiego, jak i polskiego). Brak znajomości angielskiego u dziecka nie stanowi problemu. Rodziców natomiast poproszę o wypełnienie trzech krótkich kwestionariuszy. Przeprowadzenie badania możliwe jest u Państwa w domu, w szkole dziecka, na uniwersytecie lub w innym miejscu, w którym będą odpowiednie do tego warunki.

Jeśli jesteście Państwo zainteresowani, proszę o kontakt pod numerem: [7719401824], mailowo: [s1061631@ed.ac.uk] lub listownie:

Room 3.30, St. Leonard's Land
Moray House School of Education
The University of Edinburgh
Holyrood Road
Edinburgh EH8 8AQ

mgr Agnieszka Kwiatkowska



APPENDIX 5

STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ) CONSENT FORM - ENGLISH

Dear Parent/Carer,

Thank you for consenting to you and your child participating in this study. Its first part was conducted today in your child's school. The second part (which will consist of the same assessments) will be carried out in June/July 2015 or in September/October 2015. As a thank you for the family your child today received a small gift and as a compensation for time spent on completing questionnaires at the second stage of the project there will also be a small token of appreciation for you.

In a late development in our study we decided to include one extra short measure – the Strengths and Difficulties Questionnaire (SDQ). Some research suggests that children from different cultures may find the school in the new country exciting, but might also find it harder to adjust than local children. So I wanted to include this simple measure to explore any links between the development of the two languages over time and changes in the children's functioning over the period of a school year. I enclose a copy of the SDQ so that you can see what it consists of. If you would like to ask me more about this before deciding if you would complete it, you can contact me on 07719401824. As with the earlier consent guidance, if you give consent you can still change your mind at any point in the study and withdraw without explaining why.

Please indicate below if you are happy for me to include this extra measure in my study by completing the bottom slip of the sheet and sending it to me in the enclosed addressed envelope with a stamp. If you do not have any further questions and are happy to complete the SDQ, could you please fill it in and put it in the envelope with the consent form.

Again thank you very much

Agnieszka Kwiatkowska MA

CONSENT SLIP FOR SDQ

I agree to complete the SDQ for my child (name and surname)

I do not agree to complete the SDQ for my child (name and surname)

parent's name
and surname

child's name and
surname

date

signature

NB. If you are worried that your child is experiencing difficulties, your GP can give you an advice and refer to other specialists

APPENDIX 6

STRENGTHS AND DIFFICULTIES QUESTIONNAIRE (SDQ) CONSENT FORM - POLISH

Szanowni Rodzice/Opiekunowie,

Dziękuję, że zgodziliście się Państwo na udział w badaniach nad dwujęzycznością. Pierwsza część badań została dziś przeprowadzona w szkole Państwa dziecka. Druga zostanie przeprowadzona w czerwcu/lipcu lub we wrześniu/październiku 2015 roku. W ramach podziękowania dla rodziny dziecko otrzymało dzisiaj mały upominek, a przy drugiej części badań - Państwo otrzymacie drobną rekompensatę za czas poświęcony na wypełnienie kwestionariuszy.

Na późniejszym etapie przygotowań do badań postanowiliśmy użyć dodatkowego krótkiego kwestionariusza. Badania sugerują, że dzieci z różnych kultur w różnym stopniu aklimatyzują się w szkolnym środowisku kraju innego, niż kraj pochodzenia. W celu sprawdzenia związku między aklimatyzacją, a rozwojem dwóch języków dodatkowo postanowiliśmy dołączyć do badań krótki kwestionariusz – SDQ (Strengths and Difficulties Questionnaire – kwestionariusz zasobów i trudności), dotyczącego funkcjonowania dzieci w nowym otoczeniu w ciągu roku. Załączam kopię kwestionariusza, abyście mogli Państwo zobaczyć, z czego się składa. Jeśli macie Państwo jakieś pytania na jego temat, przed podjęciem decyzji o jego wypełnieniu, proszę dzwonić pod numer 07719401824. Podobnie jak poprzednio – możecie Państwo w każdej chwili, bez wyjaśniania wycofać się z udziału w badaniach.

Poniżej proszę o wskazanie, czy zgadzacie się Państwo na wypełnienie kwestionariusza SDQ poprzez wypełnienie i odesłanie dolnej części tej kartki w załączonej zaadresowanej kopercie ze znaczkiem. Jeśli nie macie Państwo żadnych pytań i zgadzacie się Państwo na wypełnienie kwestionariusza - proszę o jego wypełnienie i przesłanie w kopercie razem z dolną częścią tej kartki.

Jeszcze raz bardzo dziękuję

mgr Agnieszka Kwiatkowska

KWESTIONARIUSZ SDQ - ZGODA

Zgadzam się na wypełnienie kwestionariusza SDQ.

lub

Nie zgadzam się na wypełnienie kwestionariusza SDQ.

imię nazwisko dziecka

imię i nazwisko rodzica

data

podpis

NB. Jeśli martwicie się o to, że Wasze dziecko doświadcza jakichś trudności, Państwa lekarz rodzinny może udzielić porady na ten temat i skierować do innych potrzebnych specjalistów.

APPENDIX 7

PILOT QUESTIONNAIRE – ENGLISH

THE QUESTIONNAIRE ENGLISH

PART A

YOU

1. Length of your stay in the UK: ____ years ____ months
2. Your education: *)
 - a) vocational, b) college, c) higher, d) postgraduate degree
3. Your employment status in the UK:
 - a) lower than in Poland, b) same as in Poland, c) higher than in Poland

YOUR CHILD **)

4. The child's age and gender: ____
age gender
5. Have you ever been concerned about the child's development of speech? YES/NO *)
6. How many months has the child lived in the UK? ____ months
7. Has the child had any contact with English prior to his/her arrival to the UK: YES/NO *)
(only refers to those children who were not born in the UK)
- 7a. If you answered yes to the question no 6, state the number of hours per week the child had contact with English: ____ hours
8. How many hours weekly the child spends in the Polish school/nursery/playgroup: ____ hours
9. How many hours weekly the child spends in the UK school/nursery/playgroup: ____ hours
10. Number of hours of TV watched in Polish by the child weekly: ____ hours
11. Number of hours of TV watched in English by the child weekly: ____ hours
12. Number of stories/books read to the child in Polish weekly: ____
13. Number of stories/books read to the child in English weekly: ____
14. How much time weekly does the child use **English** at home? ____ ***)
15. How many weeks (on average) the child spends in Poland in a year: ____ weeks
16. How many hours weekly does the child spend using communication technologies (like Skype, telephone etc.) in **Polish**? ____ hours

17. Does the child speak English to their siblings? YES/NO *)

HOUSEHOLD

18. The child's siblings living in the household:

CHILD 2: _____ CHILD 3: _____ CHILD 4: _____ CHILD 5: _____
 age gender age gender age gender age gender

19. Is there an extended family person, who speaks only Polish (e.g. a grandparent, an aunt etc) in the household? YES/NO *)

*) please circle as appropriate

**) all questions from section "YOUR CHILD" refer to your child attending the school you were contacted through

***) take also into account the time spent with the child's peers outside school for example in their houses, outside etc.

PART B

STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
1. I intend to stay in the UK				
2. I am worried about my child losing ability to speak perfect Polish				
3. There has been high emotional cost of my settling in the UK				
4. Using English allows a person to feel good about him or herself				
5. It is a real shame that people of foreign descent living in the UK don't know their native language, even though English is the country's main language				
6. I regret leaving Poland				
7. Two Polish-speaking people who also know English should always speak Polish when they are alone				
8. Life in the UK is more attractive than life in Poland				
9. It is better to speak in only one language, but well				
10. Polish people living in the UK, who know English well should use it as much as possible to practise it, even at home.				
11. I think my family who live in Poland should come to the UK, because they would be happier here				

(if your whole family already lives in the UK, do not answer this question).				
12. I would consider marrying a British/Scottish person if I was single				
13. It is not O.K. if a person grows up speaking Polish, and later forgets it, even if he/she learns another language instead				
14. People know more if they speak two languages				
15. I can/would cope well in the UK, even without the knowledge of English language				
16. There have been more advantages of migrating than disadvantages				
17. I would never be able to adopt British/Scottish values and beliefs				
18. Learning more than one language might confuse my child				
19. My child's knowledge of Polish is a priority over his/her knowledge of English				
20. I like the British/Scottish system of the social roles and relations				
21. Settling in another country is an interesting experience				
22. Using too much Polish by my child means decreasing chances of it learning English well				
23. I would leave the UK tomorrow if my financial and professional situation allowed it				
24. There is nothing in Poland that I miss				
25. English is just another language than one might but doesn't have to learn.				
26. Good knowledge of Polish is not necessary for my child because English will take him/her further				
27. I sometimes use English with my child so that he/she learns it quicker				
28. The more languages my child learns the better				

PART C

STATEMENT	YES	NO
29. I attend an English language course		
29a. I don't have to attend an English language course, because my English is very good already		

30. My child attends the Polish school or learns Polish somewhere else in a systematic way (e.g. private tutoring, home schooling etc.).		
--	--	--

PART D

STATEMENT	ALWAYS	USUALLY	RARELY	NEVER
1. I am proud of being Polish				
2. I do most of my shopping in the Polish shops				
3. At home I watch Polish television				
4. I feel that I am a part of the British/Scottish culture				
5. I read Polish newspapers, magazines and books				
6. I encourage my child to follow British/Scottish traditions and customs				
7. I prefer social activities which involve the British/Scottish				
8. I try to hide the fact that I am Polish				
9. My family follows Polish traditions and customs				
10. I prepare British/Scottish dishes at home				
11. I watch British/Scottish television				

STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
12. I know popular British/Scottish newspapers, magazines and books				
13. I am interested in politics in Britain/Scotland				
14. I would give up Polish citizenship if it was required				
15. I am familiar with the current political affairs of Poland				
16. I aim to maintain Polish traditions and customs and I aim to retain my Polish identity				
17. I have many British/Scottish friends				
18. When I attend any sort of social gathering, I prefer it if the participants are Polish				
19. I try to follow British/Scottish traditions and customs and aim to become assimilated to the British/Scottish culture				
20. I have many Polish friends in the UK				
21. My cultural Polish identity is valuable to me				

KWESTIONARIUSZ

15. Ile tygodni w roku (średnio) dziecko spędza w Polsce? tygodni

16. Ile godzin tygodniowo dziecko spędza korzystając z technologii komunikacyjnych (takich jak SKYPE, telefon etc.) w **języku polskim**? ____ godzin

17. Czy dziecko rozmawia po **angielsku** ze swoim rodzeństwem? TAK/NIE *)

HOUSEHOLD

17. Rodzeństwo dziecka mieszkające w tym samym domu:

DZIECKO 2: ____ DZIECKO 3: ____ DZIECKO 4: ____
wiek płeć wiek płeć wiek płeć

18. Czy w Waszym domu mieszka ktoś z dalszej rodziny, kto mówi tylko po Polsku (np. babcia, ciocia lub dziadek dziecka? TAK/NIE *)

*) prosimy o zakreślenie odpowiedniej odpowiedzi

**) prosimy również wziąć pod uwagę czas spędzany na zabawie z rówieśnikami poza szkołą np. w ich domach, na podwórku etc.

CZĘŚĆ B

	ZDECYDOWANIE TAK	TAK	NIE	ZDECYDOWANIE NIE
1. Zamierzam pozostać w Wielkiej Brytanii.				
2. Martwię się o to, że moje dziecko straci zdolność posługiwania się czystą polszczyzną				
3. Moje osiedlenie się w Wielkiej Brytanii wiele mnie kosztowało w sensie emocjonalnym i uczuciowym.				
4. Posługiwanie się językiem angielskim zapewnia lepsze samopoczucie.				
5. To wielka szkoda, że osoby, które są obcokrajowcami z pochodzenia, a które mieszkają w Wielkiej Brytanii nie znają swojego ojczystego języka, nawet jeśli angielski jest głównym językiem tego kraju.				
6. Żałuję, że wyjechałem/wyjechałem z Polski.				
7. Dwie mówiące po polsku osoby, które także znają angielski, zawsze kiedy są same, powinny rozmawiać ze sobą po polsku.				
8. Życie w Wielkiej Brytanii jest bardziej atrakcyjne niż życie w Polsce.				
9. Lepiej jest mówić tylko w jednym języku, ale za to dobrze.				

10. Polacy mieszkający w Wielkiej Brytanii, którzy znają angielski powinni - aby go ćwiczyć - używać go używać go jak najczęściej, nawet w domu.				
11. Myślę, że moja rodzina, która mieszka w Polsce powinna przyjechać do Wielkiej Brytanii, ponieważ byłaby tutaj szczęśliwsza (jeśli cała Państwa rodzina jest w Wielkiej Brytanii proszę pominąć to pytanie).				
12. Gdybym był/była stanu wolnego brałbym/brałabym pod uwagę możliwość poślubienia Brytyjczyka/Brytyjki/Szkota/Szkotki.				
13. Jest to problem, jeśli ktoś, kto wychowuje się mówiąc po polsku, później zapomina tego języka, nawet jeśli nauczy się innego.				
14. Ludzie, którzy mówią w dwóch językach – wiedzą więcej.				
15. Potrafię/potrafiłbym/ potrafiłabym sobie dobrze radzić w Wielkiej Brytanii, nawet bez znajomości angielskiego.				
16. Z mojej migracji wyniknęło więcej plusów niż minusów.				
17. Nigdy nie byłbym/byłabym w stanie zaadoptować brytyjskich/szkockich wartości i przekonań.				
18. Uczenie się więcej niż jednego języka może mojemu dziecku namącić w głowie.				
19. Znajomość języka polskiego mojego dziecka jest priorytetowa w stosunku do jego/jej znajomości języka angielskiego.				
20. Podoba mi się brytyjski/szkocki system ról i stosunków społecznych.				
21. Osiedlenie się w obcym kraju jest ciekawym doświadczeniem.				
22. Jeśli moje dziecko będzie mówiło za dużo po polsku, zmniejsza swoje szanse na to, że nauczy się świetnie mówić po angielsku.				

23. Wyjechałbym/wyjechałabym z Wielkiej Brytanii jutro, gdyby moja sytuacja finansowa i zawodowa pozwalała na to.				
24. Niczego z Polski mi tutaj nie brakuje.				
25. Język angielski to tylko jeszcze jeden język, którego można, ale nie trzeba się nauczyć.				
26. Dobra znajomość języka polskiego nie jest niezbędna mojemu dziecku, ponieważ dalej zajdzie ze znajomością języka angielskiego.				
27. Czasami mówię z moim dzieckiem po angielsku, aby się szybciej nauczyło tego języka.				
28. Im więcej języków nauczy się moje dziecko tym lepiej.				

CZĘŚĆ C

	TAK	NIE
29. Chodzę na kurs języka angielskiego.		
29a. Nie muszę chodzić na kurs języka angielskiego, ponieważ mój angielski jest bardzo dobry.		
30. Moje dziecko chodzi do polskiej szkoły albo w inny sposób systematycznie uczy się polskiego (n.p. prywatne lekcje z nauczycielem, przerabianie materiału szkolnego w domu etc.)		

CZĘŚĆ D

	ZAWSZE	ZAZWYCZAJ	RZADKO	NIGDY
1. Jestem dumny/dumna z tego, że jestem Polakiem/Polką.				
2. Większość zakupów robię w polskim sklepie.				
3. W domu oglądam polską telewizję.				
4. Czuję, że jestem częścią brytyjskiej/szkockiej kultury.				
5. Czytam polskie gazety, magazyny i książki.				
6. Zachęcam moje dziecko aby przestrzegało brytyjskich/szkockich tradycji i zwyczajów.				
7. Wolę spotkania towarzyskie, z udziałem Brytyjczyków/Szkotów.				
8. Staram się ukrywać to, że jestem Polakiem/Polką.				
9. Moja rodzina przestrzega polskich tradycji i zwyczajów.				
10. W domu przygotowuję brytyjskie/szkockie dania.				
11. Oglądam brytyjską/szkocką telewizję.				

	ZDECYDOWANIE TAK	TAK	NIE	ZDECYDOWANIE NIE
12. Znam popularne brytyjskie/szkockie gazety, magazyny i książki.				
13. Interesuję się polityką Wielkiej Brytanii/Szkocji.				
14. Zrezygnowałby/zrezygnowałabym z polskiego obywatelstwa, jeśli byłoby to wymagane.				
15. Jestem na bieżąco z wydarzeniami politycznymi w Polsce				
16. Staram się zachowywać polską tożsamość i utrzymywać polskie tradycje i zwyczaje.				
17. Mam wielu przyjaciół, którzy są Brytyjczykami/Szkotami.				
18. Kiedy mam wziąć udział w jakimś spotkaniu towarzyskim, wolę, aby obecni tam ludzie byli Polakami.				
19. Staram się przestrzegać brytyjskich/szkockich tradycji i zwyczajów oraz asymilować z brytyjską/szkocką kulturą.				
20. Mam wielu przyjaciół w Szkocji/Wielkiej Brytanii, którzy są Polakami.				
21. Moja polska kulturowa tożsamość jest dla mnie cenna.				

APPENDIX 9

THE DICTIONARY TEST FOR CHILDREN (pol. Test słownikowy dla dzieci (TSD))

TEST SŁOWNIKOWY DLA DZIECI (TSD)						
Arkusz odpowiedzi						
Zespół Pracowni Testów Psychologicznych Polskiego Towarzystwa Psychologicznego						
Imię i nazwisko dziecka Płeć: <input type="checkbox"/> dziewczynka <input type="checkbox"/> chłopiec						
Wykształcenie matki: wyższe, średnie, zasadnicze, gimnazjalne, podstawowe						
Wykształcenie ojca: wyższe, średnie, zasadnicze, gimnazjalne, podstawowe						
Miejsce zamieszkania: DM, MM, W						
	Rok	Miesiąc	Dzień			
Data badania						
Data urodzenia dziecka						
Wiek dziecka						
Dziecko uczęszcza do:						
<input type="checkbox"/> przedszkola <input type="checkbox"/> zerówki <input type="checkbox"/> kl. I <input type="checkbox"/> kl. II <input type="checkbox"/> nie uczęszcza do żadnej placówki edukacyjnej						
Czas badania: (podpis osoby badającej)						
	WS	WP				
Podtest 1						
Podtest 2						
Podtest 3						
Podtest 4			Suma WP	Suma WP - przedziały ufności	Steny	Steny - przedziały ufności
Mowa bierna (podtesty: 1 i 3)						
Mowa czynna (podtesty: 2 i 4)						
Wynik ogólny (podtesty: 1,2,3 i 4)						
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PODTEST 1

ZESTAW I

POLECENIE: „Przeczytam ci teraz kilka słów, a ty mi powiedz, czy to jest coś, w co ludzie się ubierają?”
Czytamy pierwsze słowo („żakiet”) i ponownie pytamy: „Czy to jest coś, w co ludzie się ubierają?”. Stawiamy znak ✓ w tabelce, aby zaznaczyć udzieloną przez dziecko odpowiedź. Jeżeli widzimy, że dziecko rozumie na czym polega zadanie, nie powtarzamy powyższego pytania i kontynuujemy czytanie poszczególnych wyrazów.

SŁOWO	ODPOWIEDŹ		
	TAK	NIE	NIE WIEM
ŻAKIET			
GARNITUR			
BUKIET			
KOMPAS			
KATARYNKA			
PELERYNA			

ZESTAW II

POLECENIE: „A teraz powiedz mi, czy to są części ciała, które są w środku człowieka?”
Czytamy pierwsze słowo („jelonek”) i ponownie pytamy: „Czy to jest część ciała, która jest w środku człowieka?”. Stawiamy znak ✓ w tabelce, aby zaznaczyć udzieloną przez dziecko odpowiedź. Jeżeli widzimy, że dziecko rozumie na czym polega zadanie, nie powtarzamy powyższego pytania i kontynuujemy czytanie poszczególnych wyrazów.

SŁOWO	ODPOWIEDŹ		
	TAK	NIE	NIE WIEM
JELONEK			
PLOTEK			
PLUCA			
GOLĄBEK			
JELITO			
ŻOLĄDEK			

ZESTAW III

POLECENIE: „A teraz powiedz mi, czy to jest coś, co musi mieć każdy kraj?”
Czytamy pierwsze słowo („lmadło”) i ponownie pytamy: „Czy to jest coś, co musi mieć każdy kraj?”. Stawiamy znak ✓ w tabelce, aby zaznaczyć udzieloną przez dziecko odpowiedź. Jeżeli widzimy, że dziecko rozumie na czym polega zadanie, nie powtarzamy powyższego pytania i kontynuujemy czytanie poszczególnych wyrazów.

SŁOWO	ODPOWIEDŹ		
	TAK	NIE	NIE WIEM
IMADŁO			
HYMN			
FOLIA			
GODŁO			
FLAKON			
STOLICA			

ZESTAW IV

POLECENIE: „A teraz powiedz mi, czy to są zwierzęta?”

Czytamy pierwsze słowo („świder”) i ponownie pytamy: „Czy to jest zwierzę?”. Stawiamy znak ✓ w tabelce, aby zaznaczyć udzieloną przez dziecko odpowiedź. Jeżeli widzimy, że dziecko rozumie na czym polega zadanie, nie powtarzamy powyższego pytania i kontynuujemy czytanie poszczególnych wyrazów.

SŁOWO	ODPOWIEDŹ		
	TAK	NIE	NIE WIEM
ŚWIDER			
ŚWISTAK			
DELFIN			
ŻYWOPŁOT			
CZAPŁA			
RZEPA			

ZESTAW V

POLECENIE: „A teraz powiedz mi, czy ludzie chodzą tu załatwiać ważne sprawy?”

Czytamy pierwsze słowo („przychodnia”) i ponownie pytamy: „Czy ludzie chodzą tu załatwiać ważne sprawy?”. Stawiamy znak ✓ w tabelce, aby zaznaczyć udzieloną przez dziecko odpowiedź. Jeżeli widzimy, że dziecko rozumie na czym polega zadanie, nie powtarzamy powyższego pytania i kontynuujemy czytanie poszczególnych wyrazów.

SŁOWO	ODPOWIEDŹ		
	TAK	NIE	NIE WIEM
PRZYCHODNIA			
PRZYGODA			
KOMISARIAT			
BANK			
KONTAKT			
BARAK			

ZESTAW VI

POLECENIE: „A teraz powiedz mi, czy to jest coś, co ludzie czują do innych?”

Czytamy pierwsze słowo („sympatia”) i ponownie pytamy: „Czy to jest coś, co ludzie czują do innych?”. Stawiamy znak ✓ w tabelce, aby zaznaczyć udzieloną przez dziecko odpowiedź. Jeżeli widzimy, że dziecko rozumie na czym polega zadanie, nie powtarzamy powyższego pytania i kontynuujemy czytanie poszczególnych wyrazów.

SŁOWO	ODPOWIEDŹ		
	TAK	NIE	NIE WIEM
SYMPATIA			
DRZAZGA			
GNIEW			
KREW			
ŻYCZLIWOŚĆ			
ŻYWOŃ			

PODTEST 2

POLECENIE: „Za chwilę pokażę ci różne obrazki, a ty będziesz mi mówi(a), co na nich widzisz”.

Pokazujemy obrazek nr 1 i pytamy: „Co jest na tym obrazku?”

Analogiczne pytanie zadajemy po każdym obrazku, aż do momentu, gdy dziecko rozumie polecenie i dalsze powtarzanie pytania nie jest potrzebne. Odpowiedzi dziecka wpisujemy w dosłownym brzmieniu. Odpowiedzi udzielone po ewentualnym dopytaniu wpisujemy oddzielając je od pierwszej odpowiedzi ukośnikiem (/). Dopytanie jest możliwe, gdy dziecko nie podaje nazwy przedmiotu/osoby z obrazka, a dokonuje opisu, podaje zastosowanie itp. Dopytanie ma postać: „A jak się nazywa... (tutaj powtarzamy określenie dziecka)”.

L.p.	OBRAZEK	ODPOWIEDŹ DZIECKA	PUNKTY
1	POLICJANT		
2	SMOK		
3	PIRAT		
4	BOMBKA		
5	MIKSER		
6	RYCERZ		
7	FOTEL		
8	KRAWAT		
9	PATELNIA		
10	KIELBASA		
11	SZACHY		
12	KALENDARZ		
13	UL		
14	STRAŻAK		
15	WRÓŻKA		
16	RAKIETA		
17	FARTUCH		
18	PAW		
19	POMNIK		
20	GLOBUS		
21	BURAK		
22	ŁYŻWA		
23	ZAKONNICA		
24	PISANKA		
25	BERŁO		
26	ŚWIECZNIK		

PODTEST 3

POLECENIE: „Powiem ci jedno słowo, a potem trzy inne słowa. Słuchaj uważnie i powiedz mi, które z tych trzech słów znaczy prawie to samo, co pierwsze słowo.

Na przykład:

Czy wędrować znaczy prawie to samo, co pracować, spacerować, czy wędkować?”

- Jeżeli dziecko nie odpowie na pytanie należy je powtórzyć.
- Jeżeli dziecko odpowie: „spacerować” – zaznaczamy kółkiem odpowiedź i mówimy: „Tak, bo spacerować znaczy prawie to samo, co wędrować”, a następnie przechodzimy do drugiego przykładu
- Jeżeli dziecko nie da właściwej odpowiedzi w przykładzie pierwszym należy powiedzieć: „Chodzi o słowo spacerować. Bo spacerować znaczy prawie to samo, co wędrować”
- Następnie przechodzimy do przykładu drugiego i pytamy: „Czy piękny znaczy prawie to samo, co ładny, pilny czy mądry?”
- Jeżeli dziecko odpowie: „ładny” – zaznaczamy kółkiem odpowiedź i mówimy: „Tak, bo ładny znaczy prawie to samo, co piękny”, a następnie przechodzimy do zadań testowych
- Jeżeli dziecko nie da właściwej odpowiedzi w przykładzie drugim należy powiedzieć: „Chodzi o słowo ładny. Bo ładny znaczy prawie to samo, co piękny”. Następnie przechodzimy do zadań.

PRZYKŁADY:

1. WĘDROWAĆ:

- a) PRACOWAĆ ☒ b) SPACEROWAĆ c) WĘDKOWAĆ

2. PIĘKNY:

- ☒ a) ŁADNY b) PILNY c) MĄDRY

Po przerobieniu przykładów zadajemy pytania wg schematu: „Powiedz mi, czy (tutaj mówimy słowo pogrubione) znaczy prawie to samo, co (tutaj wymieniamy po kolei słowa oznaczone literami a, b i c).

ZADANIA TESTOWE

1. WIADERKO:

- a) PUDEŁKO b) KUBELEK c) KUNDELEK

2. OSTUDZIĆ:

- a) OPARZYĆ b) OCHŁODZIĆ c) OBUDZIĆ

3. SMACZNY:

- a) PYSZNY b) CZYSTY c) ŚLICZNY

4. ZWYCIĘSTWO:

- a) POSEŁSTWO b) MĘSTWO c) SUKCES

5. PAZNOKIEĆ:

- a) PAZUREK b) SZPADELEK c) MAZUREK

6. SZCZUPŁY:

- a) SZTUCZNY b) RUDY c) CHUDY

7. ARMIA:

- a) RAMIĘ b) ARENA c) WOJSKO

8. PREZENT:

- a) PODARUNEK b) PORZECZKA c) MOMENT

9. ŻARTY:

- a) POWIDŁA b) FIGLE c) GOKARTY

10. STRÓJ:

- a) KRÓJ b) UBRANIE c) SŁÓJ

11. ROZGRYWKI:

- a) ZAWODY b) PODCHODY c) POKRYWKI

12. ZWINNY:

- a) ZRĘCZNY b) PORĘCZNY c) INNY

13. ŁAMIGŁÓWKI:

- a) STATKI b) ZAGADKI c) WYMÓWKI

14. NIEOSWOJONY:

- a) DZIKI b) NIEZGRABNY c) DZIELNY

15. URZĄD:

- a) NARZĄD b) BIURO c) PIÓRO

PODTEST 4

POLECENIE: „Za chwilę przeczytam ci opowiadanie. W tym opowiadaniu brakuje niektórych słów – będę wtedy przerywać czytanie. Słuchaj uważnie i mów głośno słowa, których brakuje w opowiadaniu. Zaczynamy!”

Odpowiedzi dziecka wpisujemy w dosłownym brzmieniu. Odpowiedzi udzielone po ewentualnym dopytaniu (patrz: przypis) wpisujemy oddzielając je od pierwszej odpowiedzi ukośnikiem (/).

WAKACJE

Tomek i Marta jadą z rodzicami na wakacje.

Rano poszli z mamą na stację, żeby w kasie kupić(1)

(Co mama miała kupić w kasie?) – **BILETY**

Wieczorem cała rodzina pojechała taksówką na stację kolejową i wsiadła do(2) (Do czego wsiadła rodzina na stacji?) – **POCIĄGU**

Mieli nim jechać przez całą noc.

Pociąg ruszył i do przedziału wszedł(3),

żeby sprawdzić bilety.

(Kto wszedł do przedziału, żeby sprawdzić bilety?) – **KONDUKTOR***

Rano byli już nad morzem.

Jak była ładna pogoda, brali ręczniki, kostiumy kąpielowe i chodzili na plażystą(4)

(Gdzie chodzili z ręcznikami i kostiumami kąpielowymi?) – **PLAŻĘ**

Jak było pochmurno, chodzili do lasu, w którym rosły ogromne drzewa.

W lesie często zbierali owoce – najczęściej czarne(5)

(Jakie czarne owoce zbierali w lesie?) – **JAGODY**

Pewnego razu byli tak zajęci szukaniem owoców, że nie zauważyli, jak nadeszły czarne chmury i rozpętała się(6) z piorunami.

(Co się rozpętało, gdy nadeszły czarne chmury?) – **BURZA**

Zrobiło się tak zimno, że Tomek aż dostał gęsiej(7)

(Czego dostał Tomek, gdy zrobiło się tak zimno?) – **SKÓRKI**

Całe szczęście, że mieli blisko do domu.

W słoneczne dni tata pływał w morzu, a mama smarowała się olejkami i opalała się na słońcu.

Kiedy morze było niespokojne i robiły się na nim duże(8)

(Co robiło się na niespokojnym morzu?) – **FALE**

tata nie wchodził do wody i nie pozwalał też na to dzieciom.

Wtedy Marta i Tomek grali w piłkę z innymi dziećmi albo przyglądali się, jak w oddali na morzu

płyną ogromne pasażerskie(9). (Co pływało w oddali po morzu?) – **STATKI**

Niestety, wszystko, co dobre, szybko się(10)

(Co się dzieje z tym, co dobre?) – **KOŃCZY**

Trzeba było pomyśleć o powrocie do domu. Tata powiedział, że najszybciej będzie, gdy polecą(11).

(Czym najszybciej polecą?) – **SAMOŁOTEM**

Pojechali więc z bagażami na(12). (Gdzie pojechali z bagażami?) – **LOTNISKO***

Gdy siedzieli już w fotelach samolotowych, podeszła do nich stewardesa i poprosiła o zapięcie(13).

(O zapięcie czego poprosiła stewardesa?) – **PASÓW**

Lot trwał tylko jedną godzinę i wkrótce byli już w domu. To były wspaniałe wakacje!

Nr luki	Punkty
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	

* Jeżeli dziecko podczas uzupełniania luki 3 oraz luki 12 nie podaje brakującego słowa lecz opisuje dane pojęcie własnymi słowami, dopytujemy: „A jak się nazywa...? tutaj powtarzamy określenie dziecka!”. Odpowiedź dziecka uzyskaną po dopytaniu zapisujemy po ukośniku.

APPENDIX 10

TRANSLATION OF THE DICTIONARY TEST FOR CHILDREN (pol. Test słownikowy dla dzieci (TSD))

TEST SŁOWNIKOWY

SUBTEST 1

SET 1

„Now I’m going to read a few words, and you tell me, after each word, whether it’s something people wear or not?”

- „Is it something people wear?”

FROCK

SUIT

BOUQUET

COMPASS

HURDY-GURDY

CLOAK

SET 2

„And now tell me if these are body parts, that are inside the human body?”

- „Is it a body part, that is inside the human body?”

FAWN

HURDLE

LUNGS

PIGEON

BOWEL

STOMACH

SET 3

„And now tell me if it is something a country has to have?”

- Is it something a country has to have?”

VICE

ANTHEM

FOIL

FLAG

PHIAL

CAPITAL

SET 4

„And now tell me if these are animals or not?”

- Is it an animal?

DRILL

GROUNDHOG

DOLPHIN

HEDGE

HERON
TURNIP

Set 5

„And now tell me if people come here to deal with important matters?“
- Do people come here to deal with important matters?“

CLINIC
ADVENTURE
HEADQUARTERS
BANK
CONTACT
HUT

Set 6

„And now tell me if these words mean, something that people feel about other people?“
- „Is it something people feel about other people?“

SYMPATHY
SPLINTER
ANGER
BLOOD
KINDNESS
PROVISIONS

SUBTEST 2

„In a minute I will show you various pictures and you will tell me what you see on them.“
- „What's on this picture?“
- „And what is it ... called?“

- | | |
|---------------|-----------------|
| 1. POLICEMAN | 14. FIREMAN |
| 2. DRAGON | 15. FAIRY |
| 3. PIRATE | 16. ROCKET |
| 4. BAUBLE | 17. APRON |
| 5. MIXER | 18. PEACOCK |
| 6. KNIGHT | 19. STATUE |
| 7. ARMCHAIR | 20. GLOBE |
| 8. TIE | 21. BEETROOT |
| 9. FRYING PAN | 22. SKATE |
| 10. SAUSAGE | 23. NUN |
| 11. CHESS | 24. EASTER EGG |
| 12. CALENDAR | 25. SCEPTRE |
| 13. BEEHIVE | 26. CANDLESTICK |

SUBTEST 3

„I'll say one word and then three other words. Listen carefully and tell me which of the three words means almost the same as the first word. For example: Does WANDER means almost the same as to work, to walk or to FISH?“ „Does BEAUTIFUL mean almost the same as PRETTY, DUTIFUL or CLEVER?“

1. **BUCKET:**
a) BOX b) PAIL c) PUPPY
2. **COOL**
a) SCALD b) CHILL c) AWAKEN
3. **TASTY:**
a) DELICIOUS b) CLEAN c) PRETTY
4. **VICTORY:**
a) LEGATION b) COURAGE c) SUCCESS
5. **FINGERNAIL:**
a) CLAW b) SPADE c) JAW
6. **SLIM:**
a) ARTIFICIAL b) GINGER c) THIN
7. **ARMY:**
a) ARM b) ARENA c) SOLDIERS
8. **PRESENT:**
a) GIFT b) CURRANT c) MOMENT
9. **JOKES:**
a) PRESERVES b) TRICKS c) GOCARTS
10. **COSTUME**
a) CUT b) CLOTHES c) JAR
11. **CONTESTS**
a) COMPETITIONS b) ADVANCES c) COVERS
12. **AGILE**
a) NIMBLE b) HANDY c) ANOTHER
13. **PUZZLES**
a) SHIPS b) RIDDLES c) EXCUSES
14. **UNTAMED**
a) WILD b) CLUMSY c) BRAVE
15. **OFFICE:**
a) ORGAN b) STUDY c) BIRO

SUBTEST 4

„In a minute I will read to you a story. In this story there are words or part of words missing – I will pause reading. Listen carefully and say out loud the missing words. Let's start!”

- * „And what is.... called?”

HOLIDAY

Tom and Marta are going on holiday with their parents.

In the morning they went to the booth at the train station to buy.....(1)

(*What was mum supposed to buy at the booth?*) - **TICKETS**

In the evening the whole family went in a taxi to the train station and got into the..... (2)

(*What have the family got into at the train station?*) – **TRAIN**

They were supposed to travel all night.

The train started and into the compartment came..... (3) to check the tickets.

(*Who came into the compartment to check the tickets?*) – **A TICKET INSPECTOR***

In the morning they were already at the seaside.

When the weather was nice, they took towels, bathing costumes and went to a sandy.....
(4)

(Where did they go with towels and bathing costumes?) – **BEACH**

When it was cloudy, they went to the forest, where huge trees grew.

In the forest they were often picking fruit – usually black..... (5)

(What black fruit were they often picking in the forest?) – ...**BERRIES**

On one occasion they were so busy looking for fruit, they didn't notice that black clouds
had appeared overhead and a..... (6) broke out.

(What broke out when black clouds came?) - **THUNDERSTORM**

It became so cold, that Tom got goose..... (7)

(What did Tom get when it became cold?) – ...Goose**BUMPS**

Fortunately they were close to their house.

On sunny days dad was swimming in the sea, and mum put sun cream on and sunbathed.

When the sea was rough and there were big..... (8).

(Big what was on the rough sea?) - **WAVES**

dad didn't go into the water and he didn't allow the children to go in.

Then Martha and Tom played ball with other children or watched huge passenger..... far
out at sea.....(9) *(What was far out at sea?)* – **SHIPS**

Unfortunately all good things come to an (10)

(All good things come to a what?) – **END**

They had to think about returning home. Dad said that the fastest way to get there was to
fly in a (11).

(In what did dad say they could get home fastest?) – **PLANE**

So they went with their luggage to the(12) *(Where did they go with their luggage?)* -
AIRPORT*

When they were sitting in their seats, a stewardess came to them and asked them to fasten
their..... (13) *(What did the stewardess ask them to fasten?)* – **SEATBELTS**

The flight lasted only an hour and soon they were home. It was a great holiday!

THE RENFREW ACTION PICTURE TEST SCORING FORM

[illegible]

APPENDIX 12

FAMILY, LANGUAGE AND ATTITUDE QUESTIONNAIRE - ENGLISH

Dear Parent,

Last year I started a research on bilingual Polish children and you were asked to complete the SDQ (Strengths and Difficulties Questionnaire) questionnaire in order to measure adjustment of bilingual children to new, school environment. Now I would like to ask you to fill the **SDQ questionnaire** again along with two more questionnaires: **“Acculturation Questionnaire”** and **“Parent’s Questionnaire”**.

The “Acculturation Questionnaire” is a measure of a level of adjustment to the culture of your host country and the way to complete it is explained on the actual questionnaire sheet.

The “Parent’s Questionnaire” is divided into five sections: ABOUT YOU, ABOUT YOUR CHILD, ENGLISH USE IN THE PAST, LANGUAGES USED AT PRESENT, and LANGUAGE ATTITUDES. Answering some of the questions you have to circle the appropriate answer, in case of the others you need to fill in the spaces provided. All questions from section ABOUT YOUR CHILD refer to your child who was assessed during the first part of the study.

If you are not sure which answer to choose, please pick the choice that’s closest to your views. Completion of the questionnaire will take approximately 10 minutes. Your answers will be strictly confidential. If you are interested in the findings of the study, please indicate it at the end of the “Parent’s Questionnaire” and I’ll be able to offer you information regarding the general findings of the study as well as your child’s individual results. All questionnaires and assessments results will be deleted as soon as they are no longer being used for academic purposes. If you would like to opt out or if you have any queries about any of these questionnaires, please contact Agnieszka Kwiatkowska on 07719401824 or on s1061631@ed.ac.uk . Please post your completed questionnaires in the pre-paid and addressed envelope provided to:

AGNIESZKA KWIATKOWSKA
Room 3.30
St. Leonard's Land
Moray House School of Education
The University of Edinburgh
Holyrood Road
Edinburgh EH8 8AQ

Please find enclosed an M&S voucher which we would like to offer you as a thank you for your time and contribution to the study.

Thank you very much!

THE PARENTS QUESTIONNAIRE

Child's name: _____

ABOUT YOU

1. What is your relationship to the child: MOTHER FATHER OTHER (specify) _____
2. For how long have you stayed in the UK? ____ years ____ months
3. What is your education level?
a) basic b) vocational c) college or technical school d) higher e) postgraduate degree
- 3a. What is your husband's/wife's/partner's education level?
a) basic b) vocational c) college or technical school d) higher e) postgraduate degree
4. Is your employment status in the UK
a) lower than in Poland b) same as in Poland c) higher than in Poland e) does not apply
- 4a. Is your husband's/wife's/partner's employment status in the UK
a) lower than in Poland b) same as in Poland c) higher than in Poland e) does not apply
5. Please state who lives in your house, their relationship to the child, age, and tick whether they speak mainly Polish, mainly English or both Polish and English equally

	who	age	speaks mainly Polish	speaks mainly English	speaks Polish and English equally
1					
2					
3					
4					

ABOUT YOUR CHILD

6. In what country was the child born? _____ ➡ If in the UK- go to Q8

7. If the child was not born in the UK - how long has the child lived in the UK? ____years
____months

8. Has the child lived in any other countries? YES NO ➡ If NO - go to Q9

8a. If yes which countries did the child live in and for how long

COUNTRY	LENGTH OF TIME

ENGLISH USE IN THE PAST

9. Has the child been exposed to English before he/she started mainstream school: YES NO
➡ If NO - go to Q10

9a. If you answered 'yes' to question 9, state the number of hours per week the child has had contact with English (for example 20 hours a week), the length of time (for example for 2 years, 3 months) and what sort of contact it was (FORMAL for example nursery, childminder, play group or INFORMAL for example family friend, other children visiting your child):

	FORMAL	INFORMAL	OTHER
the number of hours per week			
the length of time			

LANGUAGES USED AT PRESENT

10. Does your child attend a Polish school out of normal school time? YES NO ➡ If NO - go to Q11

10a. If you answered 'yes' to question 10, state how many hours per week the child spends in the Polish school: ____ hours

10b. If you answered 'yes' to question 10, state how long the child has been attending the school.

11. How many weeks (on average) does the child spend in Poland in a year: ____ weeks

12. The child's typical week **OUT OF SCHOOL TIME:**

	ENGLISH ↔ POLISH				
A. In which language does your child speak to adults (include communication technologies e.g. Skype, telephone etc.)	always in English	mostly in English	half Polish half English	mostly in Polish	always in Polish

B. In which language is your child read to	always in English 1	mostly in English 2	half Polish half English 3	mostly in Polish 4	always in Polish 5
C. In which language does your child watch TV/DVDs	always in English	mostly in English	half Polish half English	mostly in Polish	always in Polish
D. Which language does your child use while playing with other children (include the time spent with the child's peers outside school for example in their houses, outside etc.)	always in English	mostly in English	half Polish half English	mostly in Polish	always in Polish
E. Which language does your child use while playing with their siblings	always in English	mostly in English	half Polish half English	mostly in Polish	always in Polish

LANGUAGE ATTITUDES

13. Tick to what extent do you agree with these statements:

	definitely agree	agree	neither agree not disagree	don't agree	definitely disagree
A. It's O.K., if a person grows up speaking Polish, and later forgets it, because he/she learns English instead.					
B. Being bilingual leads to a better understanding of the world.					
C. I would like my child to speak Polish, because this is my heritage language.					
D. Good knowledge of Polish is not necessary for my child because English will give him/her better life opportunities.					
E. I would like my child to continue to speak Polish so that he/she is able to communicate with their further family.					

F. Being brought up bilingual/ biliterate opens up better employment opportunities.					
G. Ensuring that my child has a good knowledge of Polish is very important to me.					
H. A person who knows Polish and English has more chances to express his/her feelings.					
I. Using too much Polish by my child means decreasing chances of him/her learning English well.					

I would like to be given information regarding general findings of the study.

YES NO

I would like to be given information regarding my child's individual results.

YES NO

APPENDIX 13

THE FAMILY, LANGUAGE AND ATTITUDE QUESTIONNAIRE – POLISH

Szanowny Rodzicu,

Pod koniec roku 2014 rozpoczęłam badania nad dwujęzycznym polskimi dziećmi i w celu sprawdzenia w celu sprawdzenia przystosowania się dzieci do nowego, szkolnego otoczenia, poprosiłam Państwa o wypełnienie kwestionariusza SDQ (*Strengths and Difficulties Questionnaire* – kwestionariusz zasobów i trudności). Teraz chciałabym poprosić Państwa o ponowne wypełnienie kwestionariusza **SDQ**, a także dwóch innych kwestionariuszy: **“Kwestionariusza akulturacji”** oraz **“Kwestionariusza dla rodziców”**.

„Kwestionariusz akulturacji” mierzy poziom aklimatyzacji do kultury kraju, w którym się zamieszkało, a sposób, w jaki należy go wypełnić jest wyjaśniony na formularzu kwestionariusza.

“Kwestionariusz dla rodziców” jest podzielony na pięć części: O TOBIE, O TWOIM DZIECKU, UŻYCIĘ JĘZYKA ANGIELSKIEGO W PRZESZŁOŚCI, JĘZYKI UŻYWANE W CHWILI OBECNEJ oraz POSTAWY JĘZYKOWE. Odpowiadając na niektóre z tych pytań należy zakreślić swoją odpowiedź, w przypadku innych - należy ją wpisać w odpowiednim miejscu. Wszystkie pytania z części O TWOIM DZIECKU odnoszą się do dziecka, którego umiejętności językowe zostały sprawdzone podczas pierwszej części badania.

Jeżeli nie jesteście Państwo pewni, jakiej udzielić odpowiedzi, proszę wybrać taką, która najlepiej odzwierciedla Państwa opinie. Wypełnienie kwestionariusza zajmie około 10 minut. Państwa odpowiedzi będą całkowicie poufne. Jeśli jesteście Państwo zainteresowani wynikami badań, proszę to zaznaczyć na końcu “Kwestionariusza dla rodziców”, a wtedy będą mogły zaoferować Państwu informacje na temat ogólnych wyników badań, a także na temat indywidualnych wyników Waszego dziecka. Wszystkie wypełnione kwestionariusze i testy zostaną zniszczone, gdy tylko zostaną wykorzystane dla celów naukowych. Jeśli chcielibyście Państwo zrezygnować z badania lub macie Państwo jakieś pytania na temat któregośkolwiek z kwestionariuszy, proszę o kontakt ze mną pod numerem telefonu 07719401824 lub adresem mailowym s1061631@ed.ac.uk. Proszę o przesłanie wypełnionych kwestionariuszy w załączonej zaadresowanej kopercie ze znaczkiem pod adres:

AGNIESZKA KWIATOWSKA
Room 3.30 St. Leonard's Land
Moray House School of Education
The University of Edinburgh
Holyrood Road
Edinburgh EH8 8AQ

Załączam także kupon do M&S, który chcielibyśmy Państwu zaoferować w zamian za poświęcony czas i wkład w badania.

Bardzo dziękuję!

KWESTIONARIUSZ DLA RODZICÓW

Imię i nazwisko dziecka: _____

O PANU/PANI

2. Jaki jest Pani/Pana stopień pokrewieństwa z dzieckiem: MATKA OJCIEC INNY (proszę podać) _____
2. Jak długo mieszka Pan/Pani w Wielkiej Brytanii? ____ lat(a) ____ miesiąc/miesiące(y)
3. Jakie jest Pana/Pani wykształcenie?
- a) podstawowe b) zawodowe c) szkoła średnia lub technikum d) wyższe
e) podyplomowe
- 3a. Jakie jest wykształcenie Pana/Pani żony/męża/partnera(i)
- a) podstawowe b) zawodowe c) szkoła średnia lub technikum d) wyższe
e) podyplomowe f) nie mam żony/męża/partnera
4. Czy Pana/Pani status zatrudnienia w Wielkiej Brytanii jest:
- a) niższy niż w Polsce b) taki sam, jak w Polsce c) wyższy niż w Polsce e) nie dotyczy
- 4a. Czy status zatrudnienia Pana/Pani żony/męża/partnera w Wielkiej Brytanii jest:
- a) niższy niż w Polsce b) taki sam, jak w Polsce c) wyższy niż w Polsce
e) nie mam żony/męża/partnera
5. Proszę podać kto mieszka w Pana/Pani domu, ich stopień pokrewieństwa z dzieckiem, ich wiek, oraz zaznaczyć, czy mówią głównie po polsku, głównie po angielsku lub w takim samym stopniu po polsku i po angielsku.

	osoba	wiek	mówi głównie po polsku	mówi głównie po angielsku	mówi w takim samym stopniu po polsku i po angielsku
1					
2					
3					
4					

O PANA/PANI DZIECKU

6. W jakim kraju urodziło się dziecko? _____ ➡ **Jeśli w Wielkiej Brytanii – proszę przejść do pyt. 8**
7. Jeśli dziecko nie urodziło się w Wielkiej Brytanii – jak długo dziecko mieszka w Wielkiej Brytanii? ____ lat(a) ____ miesiąc/miesiące(y)

8. Czy dziecko mieszkało w jakichkolwiek innych krajach? TAK NIE ➡ Jeśli NIE – proszę przejść do pyt. 9

8a. Jeśli tak – w jakich krajach dziecko mieszkało i jak długo:

KRAJ	OKRES CZASU

UŻYCIE JĘZYKA ANGIELSKIEGO W PRZESZŁOŚCI

9. Czy dziecko miało kontakt z j. angielskim zanim rozpoczęło szkołę: TAK NIE ➡ Jeśli NIE - proszę przejść do pyt. 10

9a. Jeśli odpowiedział Pan/Pani **“tak”** na pyt. 9, proszę podać ile godzin w tygodniu dziecko miało kontakt z j. angielskim (np. 20 godzin w tygodniu), przez jaki okres czasu (np. przez 2 lata, 3 miesiące) oraz jakiego rodzaju był to kontakt (FORMALNY np. w przedszkolu, u opiekunki, w grupie zabawowej czy NIEFORMALNY np. u przyjaciela rodziny, przy okazji innych dzieci przychodzących w odwiedziny do Państwa dziecka):

	FORMALNY	NIEFORMALNY	INNY
Liczba godzin w tygodniu			
Okres czasu			

JĘZYKI UŻYWANE W PRZESZŁOŚCI

10. Czy Pana/Pani dziecko uczęszcza do polskiej szkoły w godzinach pozaszkolnych? TAK NIE ➡ Jeżeli NIE – proszę przejść do pyt.11

10a. Jeśli odpowiedział/a Pan/Pani **“tak”** na pytanie 10, proszę podać ile godzin w tygodniu dziecko spędza w polskiej szkole: ____ godzin

10b. Jeśli odpowiedział/a Pan/Pani **“tak”** na pytanie 10, proszę podać ile czasu dziecko uczęszcza już do polskiej szkoły: ____ lat(a) ____ miesiąc/miesiące(y)

11. Ile tygodni w roku (przeciętnie) dziecko spędza w Polsce: ____ tygodni

12. W typowym tygodniu dziecka **W CZASIE POZA SZKOŁĄ:**

	ANGIELSKI ↔ POLSKI				
A. W jakim języku dziecko mówi do dorosłych (proszę zaliczyć tutaj także technologie komunikacyjne takie jak Skype, telefon itp.)?	zawsze po angielsku 1	zazwyczaj po angielsku 2	w połowie po polsku, w połowie po angielsku 3	głównie po polsku 4	zawsze po polsku 5
B. W jakim języku czyta się dziecku?	zawsze po angielsku 1	zazwyczaj po angielsku 2	w połowie po polsku, w połowie po angielsku 3	głównie po polsku 4	zawsze po polsku 5

C. W jakim języku dziecko ogląda telewizję/DVD?	zawsze po angielsku 1	zazwyczaj po angielsku 2	w połowie po polsku, w połowie po angielsku 3	głównie po polsku 4	zawsze po polsku 5
D. Jakiego języka używa dziecko podczas zabawy z innymi dziećmi (proszę tutaj zaliczyć czas spędzony z innymi dziećmi poza szkołą np. w ich domach, na podwórku itp.)?	zawsze po angielsku 1	zazwyczaj po angielsku 2	w połowie po polsku, w połowie po angielsku 3	głównie po polsku 4	zawsze po polsku 5
E. Jakiego języka używa dziecko podczas zabawy ze swoim rodzeństwem?	zawsze po angielsku 1	zazwyczaj po angielsku 2	w połowie po polsku, w połowie po angielsku 3	głównie po polsku 4	zawsze po polsku 5

POSTAWY JĘZYKOWE

13. Proszę zaznaczyć do jakiego stopnia zgadza się Pan/Pani z poniższymi stwierdzeniami:

	zdecydowanie się zgadzam	zgadzam się	ani się nie zgadzam ani zgadzam	nie zgadzam się	zdecydowanie się nie zgadzam
A. Nie jest to wielka strata, jeśli osoba dorasta mówiąc po polsku, a później go zapomina, ponieważ nauczyła się za to języka angielskiego.	1	2	3	4	5
B. Bycie osobą dwujęzyczną prowadzi do lepszego zrozumienia świata	1	2	3	4	5
C. Chciałbym/ chciałabym, aby moje dziecko mówiło po polsku, ponieważ jest to język mojej kultury	1	2	3	4	5
D. Dobra znajomość j. polskiego nie jest niezbędna	1	2	3	4	5

mojemu dziecku, ponieważ j. angielski da mu/jej większe szanse w życiu.					
E. Chciałbym/chciałabym, aby moje dziecko nadal mówiło po polsku, aby było w stanie porozumiewać się ze swoją dalszą rodziną.	1	2	3	4	5
F. Wychowywanie się jako osoba dwujęzyczna daje większe szanse zatrudnienia.	1	2	3	4	5
G. Upewnienie się, że moje dziecko ma dobrą znajomość języka polskiego jest dla mnie bardzo ważne.	1	2	3	4	5
H. Osoba, która zna język polski i język angielski, ma większe szanse, aby wyrażać swoje uczucia.	1	2	3	4	5
I. Używanie zbyt dużej ilości języka polskiego przez moje dziecko oznacza zmniejszone szanse nauczenia się dobrze języka angielskiego.	1	2	3	4	5

Chciałbym/chciałabym, aby udzielono mi informacji na temat ogólnych wniosków z badań
TAK NIE

Chciałbym/chciałabym, aby udzielono mi informacji na temat indywidualnych wyników
mojego dziecka
TAK NIE

APPENDIX 14

VANCOUVER INDEX OF ACCULTURATION (Ryder et al. 2000)

UNIDIMENSIONAL VERSUS BIDIMENSIONAL ACCULTURATION

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Appendix

Vancouver Index of Acculturation

Please answer each question as carefully as possible by circling *one* of the numbers to the right of each question to indicate your degree of agreement or disagreement.

Many of these questions will refer to your *heritage culture*, meaning the culture that has influenced you most (other than North American culture). It may be the culture of your birth, the culture in which you have been raised, or another culture that forms part of your background. If there are several such cultures, pick the one that has influenced you *most* (e.g., Irish, Chinese, Mexican, Black). If you do not feel that you have been influenced by any other culture, please try to identify a culture that may have had an impact on previous generations of your family.

Please write your *heritage culture* in the space provided: _____

Use the following key to help guide your answers:

Strongly Disagree																			Strongly Agree
1	2	3	4	5	6	7	8	9											9
1. I often participate in my <i>heritage cultural</i> traditions.							1	2	3	4	5	6	7	8	9				
2. I often participate in mainstream North American cultural traditions.							1	2	3	4	5	6	7	8	9				
3. I would be willing to marry a person from my <i>heritage culture</i> .							1	2	3	4	5	6	7	8	9				
4. I would be willing to marry a North American person.							1	2	3	4	5	6	7	8	9				
5. I enjoy social activities with people from the same <i>heritage culture</i> as myself.							1	2	3	4	5	6	7	8	9				
6. I enjoy social activities with typical North American people.							1	2	3	4	5	6	7	8	9				
7. I am comfortable working with people of the same <i>heritage culture</i> as myself.							1	2	3	4	5	6	7	8	9				
8. I am comfortable working with typical North American people.							1	2	3	4	5	6	7	8	9				
9. I enjoy entertainment (e.g., movies, music) from my <i>heritage culture</i> .							1	2	3	4	5	6	7	8	9				
10. I enjoy North American entertainment (e.g., movies, music).							1	2	3	4	5	6	7	8	9				
11. I often behave in ways that are typical of my <i>heritage culture</i> .							1	2	3	4	5	6	7	8	9				
12. I often behave in ways that are 'typically North American.'							1	2	3	4	5	6	7	8	9				
13. It is important for me to maintain or develop the practices of my <i>heritage culture</i> .							1	2	3	4	5	6	7	8	9				
14. It is important for me to maintain or develop North American cultural practices.							1	2	3	4	5	6	7	8	9				
15. I believe in the values of my <i>heritage culture</i> .							1	2	3	4	5	6	7	8	9				
16. I believe in mainstream North American values.							1	2	3	4	5	6	7	8	9				
17. I enjoy the jokes and humor of my <i>heritage culture</i> .							1	2	3	4	5	6	7	8	9				
18. I enjoy typical North American jokes and humor.							1	2	3	4	5	6	7	8	9				
19. I am interested in having friends from my <i>heritage culture</i> .							1	2	3	4	5	6	7	8	9				
20. I am interested in having North American friends.							1	2	3	4	5	6	7	8	9				

Note. The *heritage subscore* is the mean of the odd-numbered items, whereas the *mainstream subscore* is the mean of the even-numbered items. Researchers studying acculturation in other mainstream contexts may wish to change "North American" to another descriptor such as "American" in the United States or "British" in Great Britain. Copyright 1999 by Andrew G. Ryder, Lynn E. Alden, and Delroy L. Paulhus.

APPENDIX 15

TRANSLATION OF THE VANCOUVER INDEX OF ACCULTURATION

Kwestionariusz akulturacji

Proszę odpowiedzieć uważnie na każde pytanie poprzez zaznaczenie **jednego** z numerów po prawej stronie każdego pytania, aby wskazać stopień w jakim Pan/Pani zgadza się z danym stwierdzeniem.

Wiele z poniższych pytań odnosi się do Pana/Pani **kultury dziedzictwa**, czyli kultury, jaka miała na Pana/Panią największy wpływ (oprócz kultury Wielkiej Brytanii). Może to być kultura kraju, w którym Pan/Pani się urodził/a i/lub wychował/a. Ale może to być jakaś inna kultura, która tworzy część Pana/ Pani wychowania (na przykład kultura włoska, niemiecka, rosyjska). Jeśli jest kilka takich kultur proszę wybrać tą, która miała na Pana/Panią **największy** wpływ. Jeśli nie czuje Pan/Pani, że jakkolwiek inna niż brytyjska kultura miała na Pana/Panią jakiś wpływ, proszę pomyśleć o tej kulturze, która mogła mieć największy wpływ na poprzednie pokolenia w Pana/Pani rodzinie.

Proszę o wpisanie nazwy swojej kultury dziedzictwa tutaj: _____

Znaczenie numerów obok pytań wyjaśnione jest poniżej:

Zdecydowanie się nie zgadzam	Nie zgadzam się	To zależy/ opcja neutralna	Zgadzam się	Zdecydowanie się zgadzam
---------------------------------	--------------------	----------------------------------	-------------	--------------------------------

1	2	3	4	5	6	7	8	9	
1. Często uczestniczę w tradycjach <i>mojej kultury</i> .	1	2	3	4	5	6	7	8	9
2. Często uczestniczę w tradycjach typowych dla kultury Wielkiej Brytanii.	1	2	3	4	5	6	7	8	9
3. Ożeniłbym się z osobą/wysłałbym za mąż za osobę wychowaną w <i>mojej kulturze</i> .	1	2	3	4	5	6	7	8	9
4. Ożeniłbym się z osobą/wysłałbym za mąż za osobę wychowaną w kulturze Wielkiej Brytanii.	1	2	3	4	5	6	7	8	9
5. Z chęcią udzielam się towarzysko z ludźmi z tej samej, co <i>moja kultury</i> .	1	2	3	4	5	6	7	8	9
6. Z chęcią udzielam się towarzysko z typowymi Brytyjczykami.	1	2	3	4	5	6	7	8	9
7. Dobrze mi się pracuje z ludźmi wychowanymi w <i>tej samej kulturze, co ja</i> .	1	2	3	4	5	6	7	8	9
8. Dobrze mi się pracuje z ludźmi wychowanymi w typowo brytyjskiej kulturze.	1	2	3	4	5	6	7	8	9
9. Lubię rozrywkę (np. filmy, muzykę) pochodzącą z <i>mojej kultury</i> .	1	2	3	4	5	6	7	8	9

10. Lubię rozrywkę (np. filmy, muzykę) pochodzącą z kultury brytyjskiej.	1 2 3 4 5 6 7 8 9
11. Często zachowuję się w sposób typowy dla <i>mojej kultury</i> .	1 2 3 4 5 6 7 8 9
12. Często zachowuję się w sposób typowy dla kultury brytyjskiej.	1 2 3 4 5 6 7 8 9
13. Jest dla mnie ważne, aby zachowywać albo rozwijać praktyki typowe dla <i>mojej kultury</i> .	1 2 3 4 5 6 7 8 9
14. Jest dla mnie ważne, aby zachowywać albo rozwijać praktyki typowe dla kultury brytyjskiej.	1 2 3 4 5 6 7 8 9
15. Wierzę w wartości reprezentowane przez <i>moją kulturę</i> .	1 2 3 4 5 6 7 8 9
16. Wierzę w typowo brytyjskie wartości.	1 2 3 4 5 6 7 8 9
17. Lubię żarty i humor typowe dla <i>mojej kultury</i> .	1 2 3 4 5 6 7 8 9
18. Lubię typowo brytyjskie żarty i humor.	1 2 3 4 5 6 7 8 9
19. Zależy mi na tym, aby mieć przyjaciół wychowanych w <i>mojej kulturze</i> .	1 2 3 4 5 6 7 8 9
20. Zależy mi na tym, aby mieć przyjaciół, którzy są Brytyjczykami.	1 2 3 4 5 6 7 8 9

Bardzo dziękuję!

APPENDIX 16

BILINGUAL MAINTENANCE AND LOSS QUESTIONNAIRE (Hakuta and D'Andrea 1992)

BILINGUAL MAINTENANCE AND LOSS

Table 3: Statements used to obtain language attitudes, sorted by factors obtained in principal components factor analysis. The key factors have been labelled.

<i>Maintenance orientation</i>	
SENHIST	Knowing how to speak Spanish is important to understand a person's family history. (strongly disagree/strongly agree)
S_IMPORT	How important is it for you to know Spanish well? (not at all/very much)
SENXPRES	A person who knows Spanish, in addition to English, has more chances to express his or her feelings. (strongly disagree/strongly agree)
B_IMPORT	How important is it for you to know both English and Spanish well? (not at all/very much)
SENGOOD	Using Spanish allows a person to feel good about him or herself. (strongly disagree/strongly agree)
USEDAILY	People who know Spanish well should use it daily, especially at home. (strongly disagree/strongly agree)
COMDAILY	A person often needs to use Spanish for daily communication. (strongly disagree/strongly agree)
OKFORGET	It's O.K. if a person grows up speaking Spanish, and later forgets it. (strongly disagree/strongly agree)
<i>Subtractive orientation</i>	
SHIPUBLIC	Two Spanish-speaking people who also know English should speak English together when they are in public. (strongly disagree/strongly agree)
SHIALONE	Two Spanish-speaking people who also know English should always speak English even when they're alone. (strongly disagree/strongly agree)
NOLOOSEN	It's possible to speak Spanish better without losing the ability to use English. (strongly disagree/strongly agree)
SHIMAINL	In the USA it's all right for people of Mexican descent to not know Spanish well because English is this country's main language. (strongly disagree/strongly agree)
LEARNENG	It's possible to learn English well without forgetting Spanish. (strongly disagree/strongly agree)
<i>Pragmatic orientation</i>	
ENUSEFUL	It is very useful to know English for everyday life. (strongly disagree/strongly agree)
E_IMPORT	How important is it for you to know English well? (not at all/very much)
ENGODJOB	Knowing English is important for getting a good job. (strongly disagree/strongly agree)
INSJOB	Knowing Spanish helps a person get a job and sometimes even higher pay. (strongly disagree/strongly agree)
COMFRIEN	Using Spanish enables a person to meet and make friends with other Spanish-speaking people. (strongly disagree/strongly agree)

APPENDIX 17

Strength and Difficulties Questionnaire (SDQ) – English (Goodman 2005)

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name

Male/Female

Date of Birth

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children (treats, toys, pencils etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often has temper tantrums or hot tempers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, tends to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally obedient, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries, often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpful if someone is hurt, upset or feeling ill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constantly fidgeting or squirming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has at least one good friend	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often fights with other children or bullies them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often unhappy, down-hearted or tearful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally liked by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easily distracted, concentration wanders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nervous or clingy in new situations, easily loses confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kind to younger children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often lies or cheats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Picked on or bullied by other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often volunteers to help others (parents, teachers, other children)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinks things out before acting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steals from home, school or elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gets on better with adults than with other children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many fears, easily scared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sees tasks through to the end, good attention span	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature

Date

Parent/Teacher/Other (please specify:-)

Thank you very much for your help

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APPENDIX 18

Strength and Difficulties Questionnaire (SDQ) – Polish (Goodman 2005)

Kwestionariusz silnych i słabych stron

Proszę zaznaczyć przy każdym zdaniu jedną z trzech możliwości: „Nieprawda”, „Częściowo prawda”, „Zdecydowanie prawda”.
Proszę ustosunkować się do wszystkich zdań, nawet jeśli czasem nie jesteś pewny/a albo zdanie wydaje Ci się nieco dziwne.
Odpowiedzi udzielaj na podstawie zachowania dziecka w ostatnich sześciu miesiącach lub w tym roku szkolnym.

Imię i nazwisko dziecka

Chłopiec / Dziewczyna

Data urodzenia

	Nieprawda	Częściowo prawda	Zdecydowanie prawda
Bierze pod uwagę uczucia innych ludzi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jest niespokojny/a, nadpobudliwy/a, nie potrafi spokojnie długo usiedzieć	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Często skarży się na bóle głowy, brzucha lub że źle się czuje	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chętnie dzieli się z innymi dziećmi (słodkimi, zabawkami, ołówkami itp.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Często miewa napady złości; ma porywczy temperament	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jest raczej samotnikiem; zwykle bawi się sam/a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Na ogół jest posłuszny/a; zazwyczaj robi to, o co proszą dorośli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Często martwi się czymś; wygląda na zmartwionego/zmartwioną	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pomaga, jeśli ktoś cierpi, jest smutny lub źle się czuje	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nieustannie się kręci i wierci	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ma co najmniej jednego dobrego przyjaciela	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Często bije się z innymi dziećmi albo znęca się nad nimi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Często jest nieszczęśliwy/a, przygnębiony/a i płaczliwy/a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Na ogół jest lubiany/a przez inne dzieci	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Łatwo się rozprasza, trudno mu/jej się skoncentrować	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
W nowych sytuacjach denerwuje się lub „przykleja się” do kogoś; łatwo traci pewność siebie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jest miły/a dla młodszych dzieci	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Często kłamie lub oszukuje	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inne dzieci zaczepiają go/ją lub znęcają się nad nim/nią	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Często chętnie pomaga innym (rodzicom, nauczycielom, innym dzieciom)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zastanawia się, zanim coś zrobi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Krudnie w domu, szkole lub innych miejscach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lepiej dogaduje się z dorosłymi niż z rówieśnikami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ma wiele lęków, szybko ogarnia go/ją strach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wykonuje zadania do końca; ma dobrą koncentrację uwagi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Podpis

Data

Rodzic/nauczyciel/inne (proszę określić):

Bardzo dziękujemy za pomoc

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APPENDIX 19

LIST OF VARIABLES

VARIABLE	FORM OF DATA	TYPE OF DATA	CATEGORIES
<i>Demographics</i>			
Gender	categorical	2 categories	boys/girls
Age	continuous	years and months	
Place of birth - child	categorical	3 categories	Poland/UK/other
Relationship to child (gender of the parent completing the questionnaire)	categorical	2 categories	female/male
How long in the UK - family?	continuous	years and months	
How long in the UK – child?	continuous	years and months	
Stay in other countries	categorical	years and months	yes/no
Time difference between T1 and T2	continuous	years and months	
Mother - age	continuous	years	
Father - age	continuous	years	
Mother – language	categorical	3 categories	Polish/English/both
Father - language	categorical	3 categories	Polish/English/both
Other people in household - age?	continuous	years	
Other people in household - language?	categorical	3 categories	Polish/English/both
Parent education	categorical	3 categories	vocational/ secondary (technical/collage)/ higher
Parent employment status	categorical	3 categories	lower than in Poland/ same as in Poland/ higher than in Poland
Parent' partner education	categorical	3 categories	vocational/ secondary (technical/collage)/ higher
Parent's partner employment status	categorical	3 categories	lower than in Poland/ same as in Poland/ higher than in Poland

<i>Language exposure</i>			
Previous formal contact with English	categorical	2 categories	yes/no
Previous formal contact with English - years	continuous	years	
Previous formal contact with English - hours	continuous	hours	
Previous informal contact with English	categorical	2 categories	yes/no
Previous informal contact with English - years	continuous	years	
Previous informal contact with English - hours	continuous	hours	
Previous other contact with English	categorical	2 categories	yes/no
Previous other contact with English – years - years	continuous	years	
Previous other contact with English – weeks - hours	continuous	hours	
Attending Polish school – hours per week	continuous	hours	
Attending Polish school – years	continuous	years	
Time spent in Poland – week per year	continuous	weeks	
<i>Language use</i>			
Which language used when speaking at home	continuous	Likert English-Polish	
Which language used when reading	continuous	Likert English-Polish	
Which language used when watching TV/DVD	continuous	Likert English-Polish	
Which language used when speaking to peers	continuous	Likert English-Polish	
Which language used when speaking to siblings	continuous	Likert English-Polish	
<i>Language assessments</i>			
English grammar T1	continuous		
English info T1	continuous		
English total T1	continuous		
Polish 'row score' passive T1	continuous		
Polish 'row score' active T1	continuous		
Polish 'row score' total T1	continuous		
Polish 'stems' passive T1	continuous		
Polish 'stems' active T1	continuous		
Polish 'stems' total T1	continuous		
English grammar T2	continuous		
English info T2	continuous		
English total T2	continuous		

Polish 'row score' passive T2	continuous		
Polish 'row score' active T2	continuous		
Polish 'row score' total T2	continuous		
Polish 'stens' passive T2	continuous		
Polish 'stens' active T2	continuous		
Polish 'stens' total T2	continuous		
<i>Attitudes and enculturation</i>			
Heritage culture	continuous		
Host culture	continuous		
Subtractive language attitude score	continuous		
Bilingual language attitude score			
Maintenance language attitude score			
Emotional functioning of the child			
Who completed T1	categorical	2 categories	
Who completed T2	categorical	2 categories	
T1 SDQ score (hyperactivity/ behaviour/ emotions/ peers)	continuous		
T2 SDQ score (hyperactivity/ behaviour/ emotions/ peers)	continuous		
T1 SDQ score (prosocial)	continuous		
T2 SDQ score (prosocial)	continuous		

APPENDIX 20

INFORMATION REGARDING DEMOGRAPHICS

DESCRIPTIVE INFORMATION

Table 1 *Children's place of birth*

	Frequency	Percent
Poland	9	17.0
UK	43	81.1
Other English-speaking country	1	1.9
Total	53	100.0

Table 2 *Education of mothers and fathers*

	Mothers- frequency	Mothers- percent	Fathers- frequency	Fathers- percent
Vocational	1	1.9	7	13.7
Secondary/technical/college	20	37.7	20	39.2
Higher	32	60.4	24	47.1
Total	53	100	51	100

Table 3 *Languages used by mothers and fathers*

	Mothers - frequency	Mothers – percent	Fathers - frequency	Fathers – percent
Only Polish	29	58.0	27	57.4
Only English	0	0.0	1	2.1
Polish and English	21	42.0	19	40.4
Total	50	100.0	47	100.0

Table 4 *Employment status of mothers and fathers*

	Mothers - frequency	Mothers – percent	Fathers - frequency	Fathers – percent
Lower than in Poland	14	42.4	10	21.3
Same as in Poland	9	27.3	18	38.3
Higher than in Poland	10	30.3	19	40.4
Total	33	100.0	47	100.0

Table 5 *Time in Scotland spent by children and parents*

	N	Mean	SD
Number of years parents have spent in Scotland	53	9.13	2.54
Number of years children have spent in Scotland	53	6.37	1.10

Table 6 Languages used by siblings (N = 49)

	Frequency	Percent
Polish	21	40.8
English	5	10.2
Polish and English	17	36.7
none yet	6	12.2
Total	49	100.0

TABLE OF CORRELATION

	ENGLISH				POLISH			
	TIME 1		TIME 2		TIME 1		TIME 2	
	Inf.	Gram.	Inf.	Gram.	Prod.	Rec.	Prod.	Rec.
Parents' education	0.16	0.26	0.13	0.12	0.10	0.12	0.28*	0.19
Mother's education	0.08	0.16	-0.09	-0.03	-0.05	0.06	0.16	0.34*
Father's education	0.21	0.28*	0.31*	0.24	0.06	-0.02	0.18	-0.02
Child's age	0.44**	0.46**	0.21	0.30*	-0.20	-0.09	-0.11	0.001
Mothers' age	0.09	0.16	0.28*	0.36**	-0.27	0.14	-0.09	0.15
Fathers' age	-0.03	0.08	0.10	0.27	-0.32*	0.13	-0.21	0.05
Time in UK	0.27	0.31*	0.30*	0.34*	-0.42**	-0.11	-0.27*	0.02
Acculturation (heritage)	0.03	-0.05	-0.16	-0.29*	0.21	0.07	0.16	0.18
Enculturation (mainstream)	-0.11	-0.14	-0.02	-0.09	0.02	0.02	0.17	-0.04
Subtractive	-0.16	-0.13	-0.01	-0.16	0.14	-0.19	0.04	-0.08
Bilingual	-0.004	0.003	-0.22	-0.25	0.002	-0.16	-0.14	-0.15
Maintenance	0.01	0.01	-0.10	-0.20	0.11	-0.22	-0.12	-0.11
SDQ problems T1	0.04	0.01	0.08	0.11	0.08	0.01	-0.004	-0.007
SDQ problems T2	0.14	0.12	0.10	0.18	-0.12	-0.28*	-0.16	-0.11
SDQ prosocial T1	0.009	-0.01	-0.08	0.006	0.005	-0.10	0.05	0.07
SDQ prosocial T2	0.25	0.24	0.12	0.03	0.22	0.13	0.29*	0.10

* $p < 0.05$, ** $p < 0.01$